1946 SESSION

THE SENATE OF CANADA

PROCEEDINGS

OF THE

STANDING COMMITTEE

ON

NATURAL RESOURCES

ON

THE ECONOMIC VALUE OF METALLIFEROUS MINES IN CANADA

No. 1

TUESDAY, MAY 14, 1946

CONTENTS:

Brief of the Ontario Mining Association.

(Plates 1, 3, 4, 7 and 11 appear at end of proceedings)

OTTAWA
EDMOND CLOUTIER
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

STANDING COMMITTEE ON NATURAL RESOURCES

The Honourable J. J. DONNELLY, Chairman

The Honourable Senators

Beaubien (*St. Jean Baptiste*)	Hurtubise	Paterson
Burchill	Johnston	Pirie
Crerar	Jones	Raymond
Davies	Kinley	Riley
Dessureault	Lesage	Robicheau
Donnelly	McDonald (*Kings*)	Sinclair
Duffus	McGeer	Stevenson
Dupuis	McIntyre	Sutherland
Ferland	McLean	Taylor
Hayden	McRae	Vaillancourt
Horner	Michener	White (34)
	Nicol	

ORDER OF REFERENCE

EXTRACT from the Minutes of the Proceedings of the Senate, Thursday, May 2, 1946.

That the Standing Committee on Natural Resources be instructed to examine into the economic value of metalliferous mines in Canada and report to the House its findings, and to that end have power to call and examine witnesses and keep a record of its proceedings.

L. C. MOYER,
Clerk of the Senate.

MINUTES OF PROCEEDINGS

TUESDAY, 7th May, 1946.

Pursuant to adjournment and notice the Standing Committee on Natural Resources met this day at 2.30 p.m.

Present:—The Honourable Senators: Donnelly, Chairman; Beaubien (*St Jean Baptiste*), Burchill, Dessureault, Ferland, Hayden, Horner, Johnston, McDonald (*Kings*), McRae, Pirie, Stevenson, Taylor, Vaillancourt and White—15.

The Order of Reference of the 2nd May, 1946, was read by the Clerk as follows:—

That the Standing Committee on Natural Resources be instructed to examine into the economic value of metalliferous mines in Canada and report to the House its findings, and to that end have power to call and examine witnesses and keep a record of its proceedings.

On motion of the Honourable Senator Hayden, the Honourable Senators Crerar, Paterson and McRae were appointed a Sub-Committee on agenda.

It was Resolved to report to the Senate recommending that the Committee be authorized to print 1,000 copies in English and 200 copies in French of its day to day proceedings on the Order of Reference, and that Rule 100 be suspended in relation to the said printing.

At 2.55 p.m., the Committee adjourned to the call of the Chairman.

Attest.

A. H. HINDS,
Chief Clerk of Committees.

MINUTES OF PROCEEDINGS

TUESDAY, 14th May, 1946.

Pursuant to adjournment and notice the Standing Committee on Natural Resources met this day at 10.30 a.m.

Present:—The Honourable Senators: Donnelly, Chairman; Beaubien (*St. Jean Baptiste*), Crerar, Dessureault, Duffus, Ferland, Hayden, Horner, Hurtubise, Johnston, Jones, Lesage, McDonald (*Kings*), McGeer, McLean, McRae, Michener, Nicol, Paterson, Riley, Stevenson, Vaillancourt and White—23.

In attendance:

The official reporters of the Senate.

The Committee proceeded to the consideration of the order of reference of the 2nd May, 1946, instructing the Committee to examine into the economic value of metalliferous mines in Canada.

A brief by the Ontario Mining Association was read by:—Mr. E. V. Neelands, President, Ontario Mining Association; Mr. Robert E. Dye, Past President and Director, Ontario Mining Association, and Mr. Balmer Neilly, Director, Ontario Mining Association.

The following Exhibits to the brief were filed:—

No. 1. Brief on taxation on the Ontario metal mining industry, 1907-1941. (not printed).

No. 2. Brief by the Canadian Institute of Mining and Metallurgy on taxation and the Canadian mining industry. (not printed).

No. 3. Report of the Royal Ontario Mining Commission, 1944. (not printed).

No. 4. First report of the Conference of Mines Ministers meeting at Quebec, April 14 and 16, 1945. (not printed).

On motion of the Honourable Senator Crerar, it was—*Resolved* to report recommending that the Committee be empowered to sit during sittings of the Senate.

At 1 p.m., the Committee adjourned until 4 p.m. this day.

At 4.15 p.m., the Committee resumed.

The reading of the brief of the Ontario Mining Association was resumed.

At 5.40 p.m., the Committee adjourned to 10.30 a.m., Tuesday, 21st May, instant.

Attest.

A. H. HINDS,
Chief Clerk of Committees.

MINUTES OF EVIDENCE

THE SENATE,

TUESDAY, May 14, 1946.

The Standing Committee on Natural Resources, instructed to examine into the economic value of metalliferous mines in Canada, met this day at 10.30 a.m.

Hon. Mr. Donnnelly in the Chair.

The CHAIRMAN: The time for the meeting of this committee has now arrived. There is not perhaps such a large attendance as we would like to have, but there are two or three very important committees sitting this morning. I will ask the Clerk to read the Order of Reference, so you may know what is before you.

(Mr. Hinds reads the Order of Reference.)

The CHAIRMAN: The motion bringing this matter to the attention of this committee was moved by Senator McRae and seconded by Senator Crerar. No doubt they have given considerable thought as to how we should proceed and what information is to be furnished to us.

Before I call on them to address us I might make a suggestion on my own behalf. The Senate of Canada was never intended to be a school of oratory, and I think the same applies to committees of the Senate. As to this committee, I think you will agree with me that we shall make better progress if those who take part in the discussion speak in plain, distinct language and refrain from making long speeches. My reason for saying this is that the head of our Debates and Reporting Branch informs me that he has been unable to get capable men to assist our very efficient reporters. Consequently by being reasonably concise in our remarks we shall be helping to expedite the work of our reporters.

I will call on Senator McRae for his views on how we should proceed.

Hon. Mr. MCRAE: Mr. Chairman and gentlemen, you have heard the order of reference instructing this committee to examine into the economic value of our metalliferous mines. The term "metalliferous mines" covers the mining of our precious metals, gold and silver, and our base metals, copper, nickel, zinc, and possibly a few other minor base metals. I have mentioned only the principal ones. The economic value of these metals refers to what is in the best interests of Canada as a whole. A good many of us are of opinion that the development of our mines offers a great opportunity at this time to increase our exports and also to furnish employment. These are the main objects of the inquiry, so far as I know.

The brief which is about to be presented to us is very voluminous, but I think we can take it as furnishing the back log of the inquiry. Following this meeting other meetings will be arranged with the mining association of three or four of the other provinces which are interested in mines, and I believe it is the intention of the committee to have the Ministers of Mines of the various provinces present their views to us.

Recognizing your admonition, Mr. Chairman, to make our speeches short, I will now ask Mr. Crerar to supplement what I have said, because, after all, there is no peer to our senator in regard to mining and the assistance that he can give this committee.

The CHAIRMAN: Mr. Crerar.

Hon. Mr. CRERAR: Mr. Chairman and gentlemen, I do not think there is very much I can add to what Senator McRae has said. The order of reference indicates clearly the work ahead of the committee. In my experience of several years while Minister of Mines I became convinced that the people of Canada really did not know very much about this great national asset, both as to its present and its potential value. It seems to me that if a country is to be well governed, its people should know something about its problems and the resources it has to meet those problems. Consequently I hope that as a result of this inquiry we may get a good deal of additional information disseminated among our people. I know, for instance, that a mine has a certain value in one respect because it provides jobs, and in another respect because the miners are consumers of farm produce, and so enlarge the farmers' market. But, so far as I am aware, no effort has been made to gather together and present the data clearly to our people. I do not wish to offer any criticism, but I think the mining companies themselves have been a little lacking in appreciation of the value of such information. It is far more important for the public to know how many barrels of flour, how many tons of potatoes, and how much lumber and other commodities are purchased by a mining community than to know, for instance, the capitalization of a mine and who compose its board of directors.

I hope that this inquiry will enable us to gather together the information I have referred to and present it in a clear, concise and brief form for distribution throughout Canada. This would give our people some conception of what a great national asset we have in our metalliferous mines, and of the great development that must follow if the business of the country is handled in a proper way.

Hon. A. L. BEAUBIEN: At the last meeting a steering committee was appointed to plan out our work.

The CHAIRMAN: Yes.

Hon. A. L. BEAUBIEN: Should we take that matter up now, or wait until we have heard the brief?

Hon. Mr. MCRAE: I think I can give a little information on that. We have had difficulty in giving the different bodies that want to appear before us sufficient advance notice. It is difficult to arrange our meetings so that they will not conflict with the meetings of other committees. In the expectation of getting through with our work today we have arranged for the Western Quebec Mining Association to appear next Tuesday, and the Manitoba Mining Association a week or so later. I think the committee would be well advised to have more than one meeting a week. We should meet at least twice a week, and in that way I believe we could get through our work in six or eight meetings. The four provinces actively concerned in mining, Ontario, Quebec, Manitoba and British Columbia, want to appear before us. It was suggested that we should ask the Ministers of Mines of the various provinces to come down, and that suggestion has, in part, been adopted already. How many of those gentlemen will come here is of course another question, but if they feel so disposed they can present the provincial picture. In addition to that Senator Crerar thought we should get information from the Department of Mines and Resources through one of its officials. In this event we can devote one meeting to this purpose.

As you know, there is a lot of work before our standing committees. Two important committees, those on tourist traffic and immigration, are meeting this week, and in addition the Banking and Commerce Committee will soon be busy with the Bankruptcy Bill. The next opportunity we shall have of meeting will be Tuesday of next week when, as I have said, the Western Quebec Mining Association will be ready with their brief.

Hon. A. L. BEAUBIEN: Mr. Chairman, Mondays and Fridays no committees are sitting. If we want to get through with the work of this committee I see no reason why we should not sit on those days, so as not to conflict with other commmittees sitting on Tuesdays, Wednesdays and Thursdays.

Hon. Mr. McRAE: The difficulty is in getting a quorum together. What is our quorum?

Mr. HINDS: Nine, sir.

Hon. Mr. McRAE: We shall not be able to get a quorum on Monday unless the Senate meets Monday night.

Hon. A. L. BEAUBIEN: There should not be any difficulty about Friday.

Hon. Mr. CRERAR: Mr. Chairman, I would suggest that we get the authority of the Senate to sit while it is in session—unless we already have that authority.

Mr. HINDS: Not at present.

Hon. Mr. CRERAR: Then we should get it. The Banking and Commerce Committee will soon be starting a long series of meetings on the Bankruptcy Bill, which is a very important piece of legislation. Probably a good many people will want to make representations on it. If we get permission to sit while the Senate is in session we could meet not only on Tuesday morning but in the afternoon also. We should get these hearings disposed of as rapidly as possible, because the gentlemen who come here are very busy and we do not want to keep them in attendance any longer than we can help.

The CHAIRMAN: We have here this morning a delegation representing the Ontario Mining Association, and they have a lengthy brief to present. I wish to say that my remarks in regard to long speeches were not intended to apply to long briefs, since these lighten the work of our reporters.

Hon. Mr. CRERAR: I suggest that today we ask for permission to sit while the Senate is in session.

The CHAIRMAN: Yes.

Hon. A. L. BEAUBIEN: I can count around this table a quorum of members who spend all their week-ends in Ottawa; they have not a chance to get away. So, if desired, we can carry on the work of the committee with little interruption.

The CHAIRMAN: Are you ready, gentlemen, to hear the delegation representing the Ontario Mining Association?

Hon. Mr. McRAE: There is one point, Mr. Chairman, that I should like to direct to the attention of the committee in regard to this brief. It is quite voluminous, and I am afraid if we follow the usual practice of having it read right through without an opportunity of putting questions we shall become lost in a maze of figures. The brief is divided into six sections, and I would suggest that we should have a discusson at the end of each section. If this suggestion is approved, I would suggest further that the brief be printed in its entirety in our minutes, to be followed with the discussion after each section.

The CHAIRMAN: The suggestion is subject to the wish of the committee.

We will now hear Mr. E. V. Neelands, President of the Ontario Mining Association.

Mr. NEELANDS: Mr. Chairman and Honourable Members of the Committee: Before formally presenting our brief to you, I would like to comment shortly on the documents before you.

First of all, you have all been provided with a complete copy of the brief of the Ontario Mining Association on the Development of the Mineral Resources of Canada, which we desire to present to you orally.

Accompanying that brief you will find a volume entitled "Schedules to accompany Brief on Taxation—The Ontario Metal Mining Industry, 1907-41". This schedule, which has been brought up to date by additions to 1944, is referred to in our brief from time to time.

Certain other documents or reports are also referred to and quoted from in the text of our brief, and to complete your committee records I take pleasure in filing with you as exhibits the following:—

Three copies of a "Brief on Taxation—The Ontario Metal Mining Industry, 1907-41." Exhibit 1.

Three copies of a pamphlet entitled "Taxation and the Canadian Mining Industry." Exhibit 2.

Three copies of the "Report of the Royal Ontario Mining Commission." Exhibit 3.

Two copies of the "First Report of the Conference of Mine Ministers (Provincial) at Quebec, April, 1945. Exhibit 4.

With your permission I will now read our letter of transmittal:—

GENTLEMEN,—We wish to thank you in the first instance and on behalf of the Ontario Mining Association, for the interest displayed by the Senate in the important place in the Canadian economy filled by the Mining industry and for the opportunity you have given this Association to here present our views.

The Ontario Mining Association was incorporated in Ontario by letters patent on February 18, 1920. It is a non-profit voluntary association of operating metal mines and reduction companies. Its membership comprises practically every operating metal mine in the province of Ontario, some 40 in number, plus some 8 holding companies in control of operating properties in Ontario or other provinces in the Dominion.

In our brief, of which copies have been provided for each of your members, we have given considerable attention to a section dealing with the extent of the industry in Canada and in Ontario. We have also attempted to show you the relationship of the industry, a basic one and dependent on our natural resources, to other industry and services in Canada.

Supplementing this and to support our various proposals, we have provided to your committee and its members a complete statistical study of the Ontario Metal Mining Industry 1907-1941, with additions to 1944, being a "Brief on Taxation" as prepared for this Association by Douglas Mutch, B.A.Sc., in collaboration with Balmer Neilly. M.E. We have also provided for your records copies of the following published documents, referred to in our brief—

1. A pamphlet entitled "Taxation and The Canadian Mining Industry" being a brief prepared for submission to the Minister of Mines and Resources and to the Minister of Finance by the President and Council of the Canadian Institute of Mining and Metallurgy, dated February 24, 1944.

2. Report of the Royal Ontario Mining Commission dated September 6, 1944.

3. First report of the Conference of Mines Ministers meeting at Quebec, April 14 and 16, 1945.

All the material going to make up our presentation to you, as also the statistical information contained in the Mutch-Neilly brief, has been obtained from official Government sources or from published reports and documents. Opinions expressed are supported by long experience in the business of mining.

We who appear before your committee today, to speak with respect to Ontario's mining industry, were selected and appointed by the Ontario Mining Association. Nevertheless, we are here in our personal capacity and, unfettered by anything in the nature of specific instructions, we are free to present our own ideas.

At the outset, let us make it clear beyond question that we have no selfish purpose. We realize that in presentations such as this, history is useful only in so far as it indicates trends. We are here concerned only with the future of Canada's mining industry, neither seeking nor hoping for concessions or special privileges of any kind.

From time to time it has been the privilege of our Association to be represented before government bodies of various kinds. We have at all times carefully avoided any expressed attitude that could give rise to political controversy. We have consistently and always presented our case to the government of the day.

As intimated previously, we are here to discuss the peculiarities of the mining industry from the standpoint of production, present and potential, and when we project our figures, we hope our approach will be recognized as being based wholly upon what is most advantageous to Canada's future economic position.

We well realize our lack of experience in matters of this kind. We are hard rock miners and claim no greater distinction, and we even admit that in our enthusiasm for our own profession and industry, we may inadvertently veer to an attitude that others might regard as prejudicial.

We are here in response to a much appreciated invitation from the Senate of Canada. Our attitude is specifically co-operative, and with your permission, Mr. Chairman, I will now call upon my associates to present certain data that we believe to be wholly reliable and which we hope will prove helpful to your committee in their well-timed and very important inquiry.

Respectfully submitted,

ONTARIO MINING ASSOCIATION,

(Sgd.) E. V. NEELANDS,
President.

I should like, Mr. Chairman, to call on my colleagues Mr. Robert E. Dye, Past President and Director of our Association and Mr. Balmer Neilly, another of our directors, to proceed with the brief.

BRIEF OF ONTARIO MINING ASSOCIATION ON DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA

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BRIEF OF ONTARIO MINING ASSOCIATION ON DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA

To the CHAIRMAN and MEMBERS
COMMITTEE ON NATURAL RESOURCES,
The Senate,
Ottawa, Canada.

I. INTRODUCTORY

This Brief in its makeup may appear to stress unduly the Industry of Mining as related to the Province of Ontario. It should be pointed out in this connection that the major experience of Members of this Association is in this Province and examples therefore, to illustrate arguments being advanced from time to time, are most readily available from that experience and from records in the possession of the Association from the operational data of its Members.

In the main such data as are herein presented are from official Government or published records and are so acknowledged.

II. THE EXTENT OF THE INDUSTRY

1. *Favourable Mining Area*

Reference has been made frequently in press and public statements to the Pre-Cambrian or Canadian shield. This reference has to do with a geological classification, an age or type of rock formation particularly favourable as host to deposits of minerals, and which is found extending over a great part of Canada. The Honourable T. A. Crerar, then Minister of Mines, published in 1936 a series of radio addresses dealing with the future of Canadian Mining, which included an illustration (Pl. 1) which has been herein reproduced to show the extent of Canada's total area covered by this favourable formation. Mr. Crerar in referring to this area in his articles states—

> I see spread out over most of Quebec and Ontario, over more than two-thirds of Manitoba, over more than half of Saskatchewan and extending to the Arctic seas, that rocky and lake-bestrewn country that geologists call the Canadian shield.

He later refers to the fact that only 10 per cent of the total area of Canada comprises agricultural lands and as to the remainder, including the Canadian shield, says—

> Here within this 85 per cent of non-agricultural area, is Canada's metal-bearing Empire, a domain that has as yet been far from fully explored in search for and development of mineral resources.

While it would be a fallacy to state that all Pre-Cambrian rocks are mineralized, it is true that time and experience have proven it is favourable ground for prospecting and further that mineral deposits found therein are likely to be substantial and therefore important.

On Mr. Crerar's map there has been added, roughly to scale, the various known mining areas in Canada where mines have been found and brought into production. The map so added to gives a graphic demonstration of the large proportion of this favourable area which still remains to be explored and prospected.

Plate No. 2

TABLE SHOWING VALUE, IN DOLLARS, OF CANADA'S MINERAL PRODUCTION, 1907-1944 INC.

Gold, Copper and Nickel Production Shown Separately

Year	Total Production All Minerals Including Metals	All Metals	Production Included in Totals Gold	Copper	Nickel
1907	$ 86,865,202	$ 42,295,944	$ 8,382,780	$ 11,398,120	$ 9,535,407
1908	85,557,101	41,465,136	9,842,105	8,413,876	8,231,538
1909	91,831,441	44,452,539	9,382,230	6,814,754	9,461,877
1910	106,823,623	49,236,766	10,205,835	7,094,094	11,181,310
1911	103,220,994	47,126,724	9,781,077	6,886,998	10,229,623
1912	135,048,296	62,184,610	12,648,794	12,718,548	13,452,463
1913	145,634,812	67,270,679	16,598,923	11,753,606	14,903,032
1914	128,863,075	60,102,882	15,983,007	10,301,606	13,655,381
1915	137,109,171	76,293,502	18,977,901	17,410,635	20,492,597
1916	177,201,534	107,040,035	19,234,976	31,867,150	29,035,497
1917	189,646,821	107,930,443	15,272,992	29,687,980	33,732,112
1918	211,301,897	114,849,152	14,463,689	29,250,536	37,002,917
1919	176,686,390	73,762,793	15,850,423	14,028,265	17,817,953
1920	227,859,665	79,001,847	15,814,098	14,244,217	24,534,282
1921	171,923,342	51,216,914	19,148,920	5,953,555	6,752,571
1922	184,297,242	61,964,687	26,116,050	5,738,177	6,158,993
1923	214,079,331	84,891,218	25,495,421	12,529,186	18,332,077
1924	209,583,406	102,406,528	31,532,443	13,604,538	19,470,178
1925	226,583,333	117,082,298	35,880,826	15,649,822	15,946,672
1926	240,437,123	115,237,581	36,263,110	17,490,300	14,374,163
1927	247,356,695	113,561,030	38,300,464	17,195,487	15,262,171
1928	274,989,487	132,012,454	39,082,005	28,598,249	22,318,907
1929	310,850,246	154,454,056	39,861,663	43,415,251	27,115,461
1930	279,873,578	142,743,764	43,453,601	37,948,359	24,455,123
1931	230,434,726	120,930,147	58,093,396	24,114,065	15,267,453
1932	191,228,225	112,041,763	71,479,373	15,294,058	7,179,862
1933	221,495,253	147,015,593	84,350,237	21,634,853	20,130,480
1934	278,161,590	194,110,968	102,536,553	26,671,438	32,139,425
1935	312,344,457	221,800,849	115,595,279	32,311,960	35,345,103
1936	361,919,372	259,425,194	131,293,421	39,514,101	43,876,525
1937	457,359,092	334,165,243	143,326,493	68,917,219	59,507,176
1988	441,823,237	323,075,154	166,205,990	56,554,034	53,914,494
1939	474,602,059	343,506,123	184,115,951	60,934,859	50,920,305
1940	529,825,035	382,503,012	204,479,083	65,773,061	59,822,591
1941	560,241,290	395,346,581	205,789,392	64,407,497	68,656,795
1942	566,768,672	392,192,452	186,390,281	60,417,372	69,998,427
1943	530,053,966	356,812,760	140,575,088	67,170,601	71,675,322
1944	485,819,114	308,292,161	112,532,073	65,257,172	69,204,152
Totals	$10,005,699,893	$5,939,801,582	$2,434,335,943	$1,078,965,599	$1,081,090,415
% of Total	100·00%	59·36%	24·33%	10·78%	10·85%

(Compiled from Dominion Bureau of Statistics Records)

2. *Production*

The Mutch Report, Schedule No. 6, shows the value in Canadian funds of the total mineral production of Ontario annually from 1907 to 1944 inclusive. It also shows the value, in Canadian Funds, of the total gold production (included in the previous figures) for the same period.

The figures from 1907 to 1941 inclusive, are from the official records of the Province of Ontario; those from 1942 to 1944, inclusive, are from the published reports of the Dominion Bureau of Statistics.

Particular attention is drawn in this record to

1. The total value of the production for the 38-year period, approximately 3½ billion dollars of which the gold production represents some 1½ billion dollars or 43·92 per cent.

2. The demonstrated effect of increasing gold production, which was brought about by the request of the Government for greater gold production for exchange purposes during the early days of the war, when the annual dollar value of the gold produced increased from 99 million in 1938 to 125½ million in 1940—some 25 per cent.

3. The demonstrated effect in reducing gold production beyond 1940 which was brought about by—

(*a*) Change in Government attitude toward gold mining when exchange requirements were lessened and direct production of war materials became more advantageous.

During this period the annual dollar value of gold produced dwindled from 125½ million dollars for the peak production year in 1940, to 65½ million dollars for the peak production year in 1944, approximately 50 per cent.

(*b*) The reduction in manpower and equipment available to the industry.

(*c*) Government prohibition of opening up new gold properties which became effective late in 1941.

The tabulation in (pl. 2) sets out the similar figures applying to the Dominion of Canada (Dominion Bureau of Statistics), except that chief metals other than gold have been segregated.

This information has also been used in the preparation of a chart (pl. 3) which gives a graphic illustration of the fluctuations and steady growth of the value of Canada's mineral production over the years.

Here again the totals (1907-1944) are impressive. The total value of all minerals produced amounted to some ten billions of dollars, of which the metals alone accounted for approximately six billions of dollars—or sixty per cent.

Effect of War

The effect of the recent war and its demands and repercussions is readily seen from a study of these figures.

Canadian Gold production increased from $166 million in 1938 to $205 million in 1941, and decreased to $112 million in 1944 (and to $102 million in 1945).

Copper production calculated at fixed or pre-war prices increased from $56 million in 1938 to $67 million in 1943, with slight reduction due to manpower shortage in 1944 to $65 million.

Nickel production increased from $54 million in 1938 to $71½ million in 1943, with slight reduction due to manpower shortage in 1944 to $69 million.

All metals production including the above, increased from \$323 million in 1938 to \$395 million in 1941 and then largely due to the following decrease in gold output dropped to \$308 million in 1944.

Effect of depression period

A glance at the metal production figures for the period 1929-1932, gives a quick answer to the position of gold as buffer against periods of depression. In these years—

Copper production decreased from \$43 million to \$15 million. Nickel production decreased from \$27 million to \$7 million. All metals decreased from \$154 million to \$112 million. If gold be excluded, the figures become \$114 million to \$40 million.

Gold production *increased* from \$40 million to \$71½ million.

A similar situation is demonstrated in the period 1919-22. These effects are graphically visible on the series of charts portraying the production history of copper, nickel, gold and all other metals, contained on (pl. 4).

Plate No. 5

TABLE SHOWING NUMBER OF EMPLOYEES AND SALARIES AND WAGES PAID IN THE CANADIAN MINING INDUSTRY. 1925-1943 Inc.

Year	Number of Employees	Amount of Wages and Salaries	Average per Employee
1925	65,090	\$ 85,103,118	\$1,307
1926	77,931	94,216,813	1,209
1927	84,674	104,220,892	1,231
1928	89,448	115,954,022	1,296
1929	95,102	124,490,511	1,309
1930	89,200	113,975,332	1,278
1931	72,809	91,969,299	1,263
1932	61,470	71,772,049	1,168
1933	63,334	70,031,805	1,106
1934	73,505	88,126,186	1,199
1935	80,256	100,080,559	1,247
1936	90,999	116,766,222	1,283
1937	105,414	144,292,384	1,369
1938	107,275	145,644,000	1,358
1939	107,759	152,353,208	1,414
1940	108,886	164,489,686	1,511
1941	113,227	186,423,186	1,647
1942	112,032	198,550,260	1,772
1943	112,140	207,575,955	1,851
TOTALS	1,710,551	\$2,376,035,487	\$1,389

DISTRIBUTION ACCORDING TO INDUSTRIES—YEAR 1943

Metal Mining	64,324	\$128,483,302	\$1,997
Non-Metal Mining	7,989	11,055,861	1,384
Fuel	30,754	55,351,328	1,800
Clay etc.	9,073	12,685,464	1,398
TOTALS	112,140	\$207,575,955	\$1,851

(Compiled from: Annual Reports of the Mineral Production of Canada. Dominion Bureau of Statistics, Mining, Metallurgical and Chemical Branch.)

Plate No. 6

TABLE SHOWING AVERAGE HOURS WORKED AND WEEKLY EARNINGS OF WAGE EARNERS (EXCLUDING SALARIED EMPLOYEES) IN THE MINING INDUSTRY IN COMPARISON WITH AVERAGE FOR OTHER INDUSTRIES MONTH OF OCTOBER 1945

Industry	Ave. Hours per Week	Ave. Hourly Earnings	Ave. Weekly Earnings
Manufacturing:	44·7	67·8	$30 31
Animal Products	45·7	63·2	28 88
Aeroplanes and Parts	44·3	86·8	38 45
Automobiles and Parts	42·3	86·4	36 55
Explosives and Ammunition	46·9	74·7	35 03
Flour etc.	47·5	63·1	29 97
Foundry and Mach. Shops	45·8	77·2	35 36
Heavy Elec. Apparatus	43·3	74·9	32·43
Lumber Prod.	44·7	60·8	27·18
Petroleum and Prod.	43·2	87·0	37 58
Pulp and Paper	51.8	72·2	37 04
Railway Rolling Stock	44·0	87·5	38 50
Rubber Products	45·4	71·2	32 32
Textile Products	43·3	51·4	22 26
Mining:	44·1	85·6	37 75
Coal	40·5	94·0	38 07
Metallic Ores	*46·3*	*86·1*	*39 86*
Non-Metallic Ores (Ex. Coal)	46·6	65·9	30 71
Building Construction	41·5	81·3	33 74
Highway Construction	37·1	63·1	23 41
Services	44·0	43·9	19 32

3. *Employment*

The value of an industry to the national economy is definitely related to the question of employment. The numbers of persons directly employed, the steadiness of that employment, the scale of wages (rates and total annual income) and the extent to which the requirements of that industry create employment for other industry, all are marks of the importance of the industry in relation to the national welfare.

Schedule No. 19 of the Mutch Brief shows the number of wage earners and salaried employees in the Gold mining industry of Ontario for the years 1907-1944 inclusive. In 1941, the last year of peak production, there were 19,362 wage earners and 1,431 salaried employees.

Pl. 5 shows the total number of employees in the Canadian Mining Industry and the amount of salaries and wages paid to them for the years 1925 to 1943 inclusive. The 1943 figure shows 112,140 people employed and total payments to them of $207,575,955 in that year.

Metal mining is one of the few industries that provides full time employment throughout the year, except in a few isolated instances where open pit methods may be in part affected by weather conditions.

The Department of Labour (Dominion) published in the *Labour Gazette* (January 1946 p. 82) a statement of the average hours worked and weekly earnings of *wage earners* in the various industries in Canada and for whom statistics of man-hours are available.

These statistics are shown in tabular form on Plate No. 6 and in the form of graphs on Plate No. 7. An examination of Plates No. 6 and No. 7 will disclose the relative position of workers in the metal mining industry and forms the basis for the following observations:—

1. The average weekly earnings in metal mining are higher than those received by an employee in any other industry in Canada.
2. While the average hourly rate in Mining is slightly less than that paid in several other industries, part-time employment in those industries bring the average weekly earnings of employees working in them below the amounts received by the miners.
3. The average weekly wage in Mining is almost twice the average take of the lowest paid group.

Extra Benefits

In addition to wages and salaries, employees of Ontario mines are in receipt of extra benefits provided for by the mines, outside of the wage scale.

Such benefits are not provided uniformly throughout the Industry, either as to the type of benefit itself or as to the proportion of the cost borne by the Mine concerned.

In addition to the earnings above described, many mining companies as circumstances permit, voluntarily provide something additional in the way of service or bonus. Such additional compensation however, is in most cases an outright gift, creating no precedents for the future.

The nature of the benefits varies in consequence from mine to mine and includes—

Saving plans
Christmas bonuses and presents
Assistance to athletic and social services
Pension and annuities
Compassionate allowance
Group insurance
Sickness and non-occupational accident plans
Medical and hospital treatment plans
Cost of upkeep and contributions to hospitals
Payment of funeral expenses
Vacation with pay plans
Statutory holidays with pay
Provision of personal clothing and equipment
Operation of company stores, sales at less than cost
Provision of meals
Housing and bunk house accommodation at less than cost
Assistance to schools
Transportation for employees
Provision of meals on company time

A careful survey of the extra benefits provided in the gold mines of Ontario in 1943 was made and it was found that the average cost to the operators in all these mines was $217.97 per employee per year, approximately $18.00 per man per month.

We have no means of knowing how much of this type of assistance may be given to employees in other industries, but feel that there are few industries if any where the amounts here set out are exceeded.

Plate No. 8

TABLE SHOWING CANADA'S EXPORTS OF DOMESTIC PRODUCE, 1927-1944 INC. INDICATING VALUE OF TOTAL MINERALS AND PRODUCTS INCLUDED AND PERCENTAGE RELATIONSHIP OF SAME TO TOTAL EXPORTS

(Total Gold Production included as an Export)
In Thousands of Dollars

Year	Total Dominion Produce Including Gold Production	Non-Ferrous Metals and Products	Non-Metallic Minerals and Products	Gold Production	Total Minerals and Products Value	Total Minerals and Products % of Total Exports
1927	1,266,649	90,840	25,950	38,300	155,090	12·24%
1928	1,402,792	112.778	27,402	39,082	179,262	12·78%
1929	1,160,120	154,319	28,545	39,862	222,726	19·20%
1930	843,197	95,652	21,108	43,454	160,214	19·01%
1931	658,125	69,073	13,457	58,093	140,623	21·37%
1932	599,543	96,906	9,216	71,479	177,601	29·62%
1933	750,304	168,375	14,809	84,350	267,534	35·67%
1934	859,163	191,345	15,654	102,537	309,536	36·03%
1935	964,625	212,547	19,084	115,595	347,226	36·00%
1936	1,192,475	230,152	26,081	131,293	387,526	32·51%
1937	1,140,693	194,876	30,896	143,326	369,098	32·38%
1938	1,003,790	179,664	25,013	166,206	370,883	36·94%
1939	1,109,042	182,890	29,332	184,116	396,338	35·74%
1940	1,383,433	194,712	33,754	204,479	432,945	31·30%
1941	1,826,792	244,012	45,172	205,789	494,973	27·09%
1942	2,550,163	308,903	56,580	186,390	551,873	21·64%
1943	3,112,050	332,705	62,192	140,575	535,472	17·21%
1944	3,552,485	339,908	58,398	112,532	510,838	14·38%
Totals	25,375,441	3,399,657	542,643	2,067,458	6,009,758	23·68%

Note.—Values of Exports for years 1927 to 1936 inclusive are for Fiscal Years ended March 31, 1928 to 1937. Those for years 1937 to 1944 inclusive are for calendar years.

(Compiled from Canada Year Book and Mineral Production of Canada, Dominion Bureau of Statistics.)

4. *Export Position*

Many of Canada's industries supply in great proportion the domestic needs of its population. Metal mining on the other hand is to all intents and purposes an exporting industry, a creator of much needed foreign credit wherewith to purchase the added needs and comforts for our people, not available within the confines of our country. Additionally the industry attracts foreign capital.

Gold fits ideally into this situation in that it is in universal demand and its selling, being non-competitive, brings about no trade or tariff reprisal.

Pl. 8 is a tabulation showing Canada's total exports, $ value, for the years 1927-1944 inclusive.

For comparison and for the same period, the exports of non-ferrous metals and products, non-metallic minerals and products and the annual production of gold (taken from pl. 2) are included. These latter three figures have been added together to show the total exports of minerals and mineral products. The last column shows the percentage relationship that the total minerals and products bear to the total exports of domestic products as shown in the first column.

The importance of the mineral industry in providing Canadian Exports is brought out by the following figures which are taken from Plates No. 2 and No. 8.

For the 18 years under review (1927-1944 inclusive):—

*Total value of metal production was		$4,433,989,304
Value of non-ferrous metals and products exported was	$3,399,657,000	
Value of Gold production (assumed exported) ..	2,067,458,000	
Total metal and products exported		$5,467,115,000

With the added value of such non-ferrous metal products as are fabricated here, the dollar value of the exports of metals including products of the non-ferrous group plus gold was actually greater than the dollar value of the total production in pre-fabricated form.

For the same period (1927-1944 inclusive) the figures shown below, which were taken from Plates No. 2 and No. 8, indicate that a much larger proportion of our non-metallic mineral products are used in Canada.

*Total value of non-metallic mineral production	$2,321,157,000	
Total value of non-metallic minerals and products exported was....	542,643,000	23·4%

For the same period (1927-1944) inclusive, the Canada Year Book discloses the total value of all exports of farm and farm products were as follows:—

Agricultural and vegetable products	$5,840,766,000
Animals and animal products......	2,669,246,000
Wood, wood products and paper...	4,732,905,000
As compared with the value of exports of minerals and mineral products including gold of.....	6,009,758,000

In other words the value of our mine exports, over an 18-year period, has been greater than the value of our total exports of farm or wood products and about 71 per cent of our total exports of farm and animal exports combined.

*From plate 2—for the years 1927-1944 inclusive:—

Production of all minerals—including metals..	$6,755,146,094
Production of metals......................	4,433,989,304
Production of non-metallic minerals......... (by difference)	$2,321,156,790

DISCUSSION on Brief of ONTARIO MINING ASSOCIATION

Section I.—Introductory.

Section II.—The extent of the Industry.

(Presented by Mr. Robert E. Dye, Past President and Director, Ontario Mining Association)

Mr. Dye: Mr. Chairman and gentlemen, if you have any questions to ask me in regard to these two sections of the brief I shall be glad to answer them. Then I would call on Mr. Neilly to read Section III.

The Chairman: Do any honourable senators want to ask any questions with regard to the ground which has thus far been covered?

Hon. Mr. White: Is the labour situation improving?

Mr. Dye: Do you mean the present supply of labour at the mines?

Hon. Mr. White: Yes.

Mr. Dye: Yes, definitely so. We are finding that the returned men from the forces are coming back in very good numbers. They are a wonderful bunch of men and are taking hold of the work in a very gratifying way, with a determination to rehabilitate themselves in civilian employment. They are in every way satisfactory. In addition to those who have previously worked for us, many other returned men are finding their way into the north and are being taken on at various mines. We have a greater number of those men.

Hon. Mr. PATERSON: The information we get is that they will not go underground. Is that right?

Mr. DYE: That is not right. We heard all along during the course of the war, "Well, they won't be wanting to go underground when they come back." We have fellows who ask definitely to get back in the same drift or raise and development work. It is hard work requiring skill and men tough and willing to work hard. Not only are they willing to go back to those places, but they ask to go back to where they were before. They want to get back into the collar and into the groove. We are certainly, in my experience, getting no complaints with regard to men returning from any of the services.

Hon. A. L. BEAUBIEN: Have all the Government restrictions in regard to the production of gold been removed?

Mr. DYE: That is correct.

Hon. Mr. HORNER: I noticed the other day a report that the falling off in gold production is due to the lack of experienced help, that the mines are having difficulty in that way. I suppose that would be a temporary condition.

Mr. DYE: It is true that in some areas and in mines starting up no doubt they have difficulty in organizing an experienced capable crew. But in regard to those mines which are in production that difficulty is not great, because amongst the best miners we have are the boys off the farm and out of the cities, who go underground willing to work, and they learn the game within a comparatively short time.

Hon. Mr. MCDONALD: I suppose higher wages would be an inducement for the men to go underground.

Mr. DYE: That certainly has a lot to do with it. They are ambitious to establish themselves with new families. They want to get good pay and get on their feet.

Hon. Mr. HORNER: There is a question, Mr. Chairman, that I should like to put to Mr. Dye, but I do not know whether this is the proper place or stage to do so. It has been said that in the last several years the public who speculate in mining ventures were greatly discouraged by dishonest brokerage firms and mining promoters. I should think your mining association would be most anxious to do everything possible to convince the public that they would have at least a chance with their investments. Some assurance along that line would, I think, be of more assistance in securing money for the development of new mines.

Mr. DYE: True, it is extremely important that people who put money into mines should be given a run for their money, and it is unfortunately true that in some instances they probably do not have that satisfaction. But it is also true that venture money which goes into the early development of mining properties has entered upon a very hazardous and precarious mission. Even though those investors do have a good run for their money, a large proportion of them, if they go in with their eyes open, must realize that the chances are that as a specific property won't turn out well much of the money is destined to be lost in so far as the final object is concerned. It need not be considered lost if it is honestly and well spent, because that is a part of the risk taken.

Hon. Mr. MCRAE: On page 6 you say that the extra benefits provided for the employees in the gold mines cost the operators on an average $217.97 per employee, or approximately $18 per man per month. That is a surprising figure to me. Is it correct?

Mr. DYE: That is the result of a careful survey made amongst all gold mines in Ontario in 1943. Many of the operators became curious as to what it was costing them and what others were doing, and a comprehensive survey was made of the whole industry. This is the average for the whole province, some specific mines being somewhat higher and some somewhat lower.

Hon. Mr. HORNER: Those services are donated, the men are not charged for any of them?

Mr. DYE: That is correct. Another thing which is quite important in a way, they are not required to pay income tax on those benefits; that is, it is part of the companies' expense.

Hon. Mr. NICOL: Were you allowed to give those extra benefits without being yourself taxed?

Mr. DYE: It has grown up through the years and is considered part of the mining company's doing business. There is no subterfuge, there is nothing hidden about it.

Hon. A. L. BEAUBIEN: I suppose as the tax becomes higher the mining companies become more generous?

Mr. DYE: They cannot afford to become much more generous along this line.

Hon. Mr. PATERSON: You have had to do it to keep your men, haven't you?

Mr. DYE: We have gone through some very bad depressions in the gold-mining industry, when it was heartbreaking to see a number of men to whom we could not give any work. I would differ with the thought that the gold-mining industry was driven into this liberality because they had to do it to keep the men. The gold-mining industry has never reduced wages, and there have been many times when the country was distressingly full of men who were looking for work, and when there would have been an opportunity to take a hard-boiled attitude; but I am glad to say that the gold-mining industry has never availed itself of that opportunity.

Hon. A. L. BEAUBIEN: That applies to all of Canada pretty well.

Mr. DYE: Yes, I think that can be very definitely said. I speak particularly of Ontario and Quebec, where I know more about the gold-mining industry.

Hon. Mr. MCRAE: That raises another question, unless Mr. Dye as general manager of Dome would be disqualified to answer it. Could you give the committee some information as to what you do to make living conditions pleasant in your mining operations? Your operations, I take it, would be typical of many others in the province. There are lots of things not included in this list, are there not?

Mr. DYE: Well, we try to be pleasant and decent, and our fellows are pleasant and decent with us. We have 120 or 130 houses, which is not a sufficient number to house all our employees, but those houses are rented at a rate considerably below what equal accommodation would cost elsewhere. We sponsor a curling rink, and we do something for baseball, hockey and tennis players. Then we run a pension fund, which eases off the jolt when men retire. We also run a sick pay fund ourselves, not as an insurance policy. We administer it ourselves, and we pay a man half his wages when he is off sick. Usually he is carried for a maximum of six months, but sometimes we go a great deal longer than that, depending on circumstances. We can be much more liberal or broad-minded, in that we administer it ourselves, and each cheque is our own cheque. I have had insurance people come to me and say, "Well, you should carry this with some insurance company." I have said, "No, you would not write this." They reply, "Oh, yes, we would." I have said, "All right, here is the racket. We want to pay a man half pay when he is sick more than four days, and we want this extended to twenty-six weeks—they write their policies usually for thirteen weeks—and if the fellow is not then well, and we think it is a particularly deserving case, we want to be able to run that along for a year or a couple of years." Pretty soon you get conditions such as an actuary could not figure on at all, and those insurance men just throw up their hands and quit. We are able to pay quite liberal benefits. I am or my assistant is the claims agent, and it takes us about from ten to fifteen minutes to go over eighteen or twenty claims. Fortunately the occasion is very, very rare when we find employees "Swinging the lead" or what have you. We have of course to cut down on them. We are not soft enough to let a lot to be put over on us, but at the same time we are broad-minded.

Hon. Mr. CRERAR: Mr. Dye, you spoke of a pension plan. Does the company contribute to that?

Mr. DYE: Yes.

Hon. Mr. CRERAR: Do the men also contribute?

Mr. DYE: Yes, that is contributory. The insurance is not contributory, the company pay all of that.

Hon. Mr. CRERAR: I understand that. But take the pension plan, that has as its objective the giving to the worker a pension when he reaches a certain age and retires from work.

Mr. DYE: That is correct.

Hon. Mr. CRERAR: How much does the worker contribute to that plan, supposing he is making a couple of thousand dollars a year?

Mr. DYE: I can only contribute the same as the poorest paid surface man; that is, it is not scaled according to salary—$2.67 a month is the most that anybody can contribute.

Hon. Mr. CRERAR: That comes from the worker. Do you match that?

Mr. DYE: It costs us between two and three times that to keep the fund actuarially sound. If he is a young man we just about match it; then as he gets older we have to pay two, three, four or five times as much as he does. Before he comes to the retirement age of 65 years, as I remember, we pay five or six times as much as he does every month, but on the average over the whole payroll we pay two or three times as much as the men do.

Hon. Mr. McRAE: That is on an actuarial basis?

Mr. DYE: Oh, yes. We have the fund examined by an actuary every two, three or four years.

Hon. A. L. BEAUBIEN: That does not apply to all mining companies in Ontario?

Mr. DYE: Oh, no.

Hon. A. L. BEAUBIEN: Do you think most of them have it?

Mr. DYE: I would not say most, but a great many do have a scheme, perhaps not exactly like ours but—I do not like to name the different ones.

Hon. Mr. McRAE: In general, though, it is along the same lines as yours?

Mr. DYE: Yes.

Hon. A. L. BEAUBIEN: Must a man be so many years in the pension fund before he can retire?

Mr. DYE: He can retire at age 60 by permission—most of them retire at 65, though by permission we may allow some men to work a few years after that.

Hon. A. L. BEAUBIEN: If he retires before reaching either of those ages can he get all the money he has paid into the pension fund?

Mr. DYE: Oh, yes. It would be rather lengthy if I went through the whole thing. After he has been eighteen years in the fund he can quit and draw it when he reaches the retirement age; but always under any set of circumstances a man is returned all the money he pays in. If he lives he gets it; if he dies his estate is paid the difference between what he has paid in and what he would get had he lived to pensionable age. So there is no set of circumstances under which the man would get back less than what he put in.

Hon. Mr. WHITE: Do the companies have plans of this nature which are operated by insurance companies?

Mr. DYE: Oh, yes, and we considered that many of the insurance companies would take it. Some plans are tied in with the Canadian Government Annuities Branch of the Department of Labour, which is very good, but it is safe to say that all the plans are definitely actuarially sound, whatever the scheme may be and whoever administers it.

Hon. Mr. MCRAE: Could you give the committee your experience with respect to what percentage of your men have come back who have been discharged from the army?

Mr. DYE: I have not checked it over very recently, but upwards of 70 per cent of all the fellows who went into the forces have returned. We were able to do better than the reinstatement in civil employment authorities, and many of the companies have, but if the war had lasted indefinitely we would have been unable to do it. We were able to say to everyone who left our employ to join the services, that when he came back he would have a start with us.

Hon. A. L. BEAUBIEN: Would that 70 per cent apply to the wage-earners or the salaried class?

Mr. DYE: No, that is the wage-earner or the two combined. The proportion of salaried people in it would be small.

Hon. Mr. CRERAR: How many employees have you in your mine, Mr. Dye?

Mr. DYE: We have about 800 on the payroll.

Hon. Mr. CRERAR: Can you give the committee the total money value of the contributions you make to pensions and general welfare work, such as helping hockey and baseball teams, and so on?

Mr. DYE: I think it would be more appropriate to let it stand that we are part of the total that brings up the average, rather than go on record—

Hon. Mr. CRERAR: You are very modest, Mr. Dye.

Hon. Mr. MCRAE: I think Senator Crerar does not refer to the average, but to what may be called the community conveniences that you provide. What would the total cost be?

Mr. DYE: I cannot tell you offhand, except that those items are included in this list. The particular items, assistance to athletic and social services, were in this total, but I think it would be more appropriate to leave us in the total rather than to say, "What do you do?"

Hon. Mr. NICOL: Is your pension fund run by your company or is it separately organized?

Mr. DYE: It is separately organized. It is a very definite pension trust. The trustees of the pension fund must be the general manager for the time being, the president of the company and several of the directors. But it is a separate organization, and there is no mingling of the funds of the Dome Company with the funds of the pension fund.

Hon. A. L. BEAUBIEN: Do those who would be entitled to pension form part of the organization?

Mr. DYE: They are all members, but they are not on the investment committee and the financial end of it, and that sort of thing.

Hon. Mr. PATERSON: Do you own your own townsite?

Mr. DYE: No, except in regard to a matter of 120 or 130 houses which are on the property.

Hon. Mr. PATERSON: Many of the mines own their own townsite and undertake to run the schools, waterworks and electric lighting. Are the public services usually run at cost for the employees?

Mr. DYE: They are not only run at cost, but at less than cost.

Hon. Mr. PATERSON: That is what I am getting at. Is that $18 a month part of the public service cost?

Mr. DYE: No, we do not run a townsite. The school is adjacent to the Dome Mines and is run by the townsite out of the taxes which the company and individuals pay. We have no townsite.

Hon. Mr. PATERSON: Some of the mines have.

Mr. DYE: Yes.

Hon. Mr. MCRAE: That is not in the list on page 6.

Mr. DYE: No.

Hon. A. L. BEAUBIEN: I suppose schools would be run just the same as they are in other communities, by provincial grants and taxes?

Mr. DYE: Yes, and the school board is elected by the ratepayers.

Hon. A. L. BEAUBIEN: Can your employees who live in your houses buy them?

Mr. DYE: No. they cannot be bought; they are rented.

Hon. A. L. BEAUBIEN: But over and above the provincial grant you pay enough taxes to run the school?

Mr. DYE: That is right.

Hon. Mr. HAYDEN: I have just come in, Mr. Chairman. Some years ago I had some familiarity with the problem. It still exists. In one of these mining towns you have a very high assessment rate and a very high tax rate. What would you say as to the contributing factors to that?

Mr. DYE: Well, in any new community there is a greater proportion of school population to the total population than in older and more staid communities.

Hon. Mr. HAYDEN: Do you think it is because not enough of the money contributed by the mining companies in taxes goes to the municipality?

Mr. DYE: Reference is made to that question at some length further on in the brief. Will you bring it up then?

Hon. Mr. HAYDEN: All right.

Hon. Mr. HORNER: I visited Kirkland Lake in the early days when there was difficulty about the schools. If I remember rightly, I was told the government refused to give larger grants because of the possible lack of permanency of mining towns. Have you had that difficulty?

Mr. DYE: I could not comment on it, but I suppose initially everybody's afraid that a new community won't last.

Hon. Mr. McDONALD: What is the amount of the provincial grants?

Mr. DYE: I could not tell you offhand what they are, but the scale was made more liberal last year.

Hon. Mr. McDONALD: If they qualify as a poor school they get an extra grant.

Mr. DYE: We do not qualify as a poor school; we run a good one.

Hon. Mr. McDONALD: But that is so?

Mr. DYE: Yes, there are poor communities which get extra grants. We have never qualified or asked for them.

Hon. Mr. HORNER: With modern air-conditioning and the care taken of the men's health, do you think mining is about as safe and healthful an occupation as any other?

Mr. DYE: It is well paid and we make it as safe as we can. It has been said that the biggest risk to the miners is getting to and from their work in automobiles.

Hon. Mr. WHITE: Mr. Dye, are you experiencing the same difficulty as others are in regard to getting lumber and other materials for your housing

Mr. DYE: There is a housing problem in our camp, not as acute as in some of the newer camps, but building materials are in short supply definitely.

Hon. Mr. DUFFUS: That condition will improve, I should say, within the next two years.

Mr. DYE: Within a couple of years very much so, I would say.

Hon. Mr. McDONALD: Do you come under the Workmen's Compensation Act of the province?

Mr. DYE: Yes.

Hon. Mr. McDONALD: You get an extra grant?

Mr. DYE: Yes, we only pay our sick pay to those men who would not qualify for compensation. That is not paid when the man is hurt in the mine, because he has compensation under the Act.

Hon. Mr. McDONALD: Does the Workmen's Compensation Act allow for silicosis?

Mr. DYE: Oh, yes. But suppose a fellow gets a sore back, lumbago, cold, tonsil operation—those things the Compensation Act does not cover.

Hon. A. L. BEAUBIEN: Some years ago miners were badly affected with silicosis. Is that very prevalent to-day?

Mr. DYE: That is a continuing hazard, but a great deal has been done to lessen it, notably by increasing the use of wet drill water spray underground, better ventilation, and at every mine in Ontario now use is being made of aluminum dust, which the men breathe before going underground. That is a development which has taken place over the last sixteen years. It was started by Drs. Denny and Robinson at the McIntyre Research. Sir Frederick Banting was also interested in the research.

Hon. A. L. BEAUBIEN: Do you find the percentage of those affected decreasing under the improved methods?

Mr. DYE: To become affected with silicosis is a long process; it takes on an average fifteen years to develop. Anything that is done to lessen the hazard takes a considerable time before it becomes apparent.

Hon. A. L. BEAUBIEN: Under the Compensation Act the rate for the mining industry would be much higher than for the other industries?

Mr. DYE: Due to silicosis, that is right.

The CHAIRMAN: Mr. Dye has given us a lot of useful information. I think with the consent of the committee he might retire.

Mr. DYE: I should like to call on Mr. Balmer Neilly to carry on from this point. Thank you, gentlemen, for your attention and interest.

Plate No. 9

TABLE SHOWING TONS OF FREIGHT HAULED ON STEAM RAILWAYS OF CANADA WITH PROPORTION OF MINERAL PRODUCTS, YEARS 1927-1942 INC.

Year	Total Tons Freight Hauled	(a) Total Tons Mineral Products Hauled	Mineral Products Percentage of Total
1927	106,011,355	37,412,727	35·3%
1928	118,652,969	38,488,137	32·5%
1929	115,187,028	42,272,954	36·8%
1930	96,194,017	35,694,511	37·1%
1931	74,129,694	25,623,443	34·6%
1932	60,807,482	19,503,194	32·1%
1933	57,364,025	18,382,039	32·0%
1934	68,036,505	23,660,188	38·1%
1935	69,141,100	24,092,652	34·8%
1936	75,846,566	26,782,690	35·3%
1937	82,220,374	31,211,318	37·9%
1938	76,175,305	28,235,250	37·1%
1939	84,631,122	31,305,328	36·9%
1940	97,947,541	36,821,748	37·6%
1941	116,808,091	41,429,195	35·5%
1942	134,674,537	49,053,895	36·4%
Total	1,433,827,711	509,969,269	35·6%

(a) Does not include tonnage received by mines.

DISTRIBUTION BY COMMODITIES OF MINERAL PRODUCTS HAULED ON STEAM RAILWAYS IN CANADA, YEAR 1942

Mineral Products	Tons
Coal—Anthracite	4,676,540
Coal—Bituminous	15,259,888
Coal—Lignite	3,448,824
Coke	2,010,738
Ores and Concentrates	9,832,283
Base Bullion, Matte, Pigs and Ingots (Non-ferrous Metals)	1,775,987
Sand and Gravel	2,107,223
Stone (Crushed, Ground and Broken)	1,978,967
Other Mineral Products	7,963,445
Total	49,053,895

(Compiled from Canada Year Books)

III. INFLUENCE OF MINING ON OTHER BUSINESSES

General

Mining is an industry dependent for its existence on a natural product, the ore. It does not draw its raw products from other industry but may be said to create these by its searching for and development of ore bodies that may be found from time to time, after varying degrees of intensive search. These ore-bodies when found are first of all potential sources of new national wealth. Even though they were completely mined out with no profit, all their ultimate value would have been translated into wages, cost of supplies, freight, power, farm products, clothing and the wealth of supplies required to carry on the operations. Canada's interests therefore lie, not so much in the net profits derived, and tax revenue obtained from this industry, as in the gross value of its production. This dollar value constitutes directly new wealth and purchasing power for the nation. In countries where the profit motive has been lacking, due to the low grade of known deposits, expense of finding them, etc., governments have frequently considered it sound economy to bonus or subsidize the industry.

In the second place those orebodies, once they have been mined out, can never be replaced.

1. *Railroads*

Canada's railroads would be in sorry plight were mineral production to suddenly cease.

Pl. 9 shows the Canada Year Book figures of total freight haulage and total mineral products included in same for the years 1927-1942 inclusive.

These figures indicate that, for example in 1942, 49 million tons of the total of 134½ million tons hauled, or 36·4 per cent of the tonnage handled was made up of mineral products.

While it can be argued that of the 49 million tons of mineral products handled, some 4½ million tons is made up of anthracite coal, practically all imported, and 15 million tons is made up of bituminous coal, a large proportion of which is also imported, it is also true that these figures do not include the many tons of supplies—food products, machinery, etc., transported *to* the mines for use in production and by their employees.

2. *Electric Power*

Canada is blessed with great natural possibilities for the development of hydro-electric power.

The expenditure of large capital sums for such development is not undertaken until available markets for the power are at least indicated.

It is also true however that when power developments in a new area are undertaken to meet some particular need, that the then availability of power for other purposes in that area acts as a spur to the growth of that whole district.

These situations are abundantly clear in the mining areas of Ontario, where mine development has acted as the base on which the development of hydro-electric power has been initiated and expanded.

Following is a tabulation showing the distribution of electric power to the systems of the Ontario Hydro Electric Power Commission, for the years 1938 to 1942 inclusive. The mining districts only have been included.

TABLE SHOWING DISTRIBUTION OF POWER TO SYSTEMS OF ONTARIO HYDRO ELECTRIC POWER COMMISSION FOR YEARS ENDED OCT. 31st, 1938 TO 1942 COMPILED FROM THE CANADA YEAR BOOK 1943-44

(Horse Power)

	1938	1939	1940	1941	1942
Sudbury district	17,895	19,740	17,208	18,597	20,909
Nipissing	4,857	5,188	5,121	5,791	5,416
Abitibi	172,409	188,877	197,453	230,965	222,788
Patricia	5,697	11,792	14,209	15,791	11,059
St. Joseph	2,989				
TOTAL	203,847	225,597	233,991	272,144	260,172
TOTAL POWER DISTRIBUTED	1,831,216	1,963,471	1,954,069	2,312,219	2,265,796

Other power producers than the Hydro supply power to the mines of Ontario; for example, the International Nickel Company develop for their own use some 25,000 H.P. Northern Canada Power, later taken over by the Hydro, and other independent companies, are also suppliers.

This tabulation however, does give an indication of the necessary demand in the area even in this six-year period, when some 20 per cent growth took place. In 1943 the total H.P. developed by the Ontario Hydro was 2,265,796 and these mining areas accounted for 11·48 per cent of this.

3. *General Industry*

1. *Mines Purchases*

The production of a saleable product from naturally occurring ores has the definite effect of creating new wealth. Even apart from the profit motive, the creation of employment and the consequent payment of wages, the purchase of supplies and equipment for the mines, the purchase of the needs of life for the employees, the payment of charges for freight and services, all come out of the selling price of the product.

In 1941 Ontario produced some $123 million worth of gold. The actual disposition of the moneys received for this gold by the operating companies concerned was made the subject of study, from the published records of these companies.

PURCHASES OF MINING AND MILLING EQUIPMENT, GENERAL SUPPLIES, AND FREIGHT

—	Gold Mining	Base Metal Mining, Smelting and Refining	Coal Mining
	Value f.o.b. plant	Value f.o.b. plant	Value f.o.b. plant
	$	$	$
1. Belting of all kinds, including elevator, conveyor, transmission, etc., and fasteners for same	154,840	272,248	53,349
2. Bolts, nuts, rivets, studs, washers, coach, set and machine screws, etc	134,018	216,242	93,567
3. Castings—unfinished iron and steel	127,509	395,876	63,865
4. Unfinished brass castings; brass and copper rods and sheets, babbitt and non-ferrous metals of all kinds	15,627	500,596	58,990
5. Cars and locomotives and mechanical parts for same	436,113	393,710	130,658
6. Track materials:—rails and fittings, switches, spikes, bolts, etc	432,643	372,021	340,909
7. Explosives:—powder, fuse and detonators	4,705,128	2,303,358	482,265
8. Rock drills and parts	1,129,665	590,259	30,646
9. Drill and tool steels	935,807	437,023	14,229
10. Pipe and fittings, plumbing supplies and valves	1,290,175	1,217,268	307,054
11. Iron and steel bars, sheets, plates and all structural steel	1,017,566	1,658,529	381,798
12. Wire rope and fittings	284,844	269,308	334,913
13. Diamonds and bort for drilling	174,483	48,299	462
14. Safety equipment and apparel:—safety hats, boots, gloves, goggles, respirators, etc.; miners' lamps and accessories and lamp rentals	214,423	246,089	138,665
15. Fuel:—coal, coke, charcoal and wood	759,688	8,078,219	212,857
16. Fuel oil, kerosene and gasoline	957,351	1,585,962	55,473
17. Lubricants:—oil, grease and waste	322,803	282,282	186,969
18. Lumber and timber of all kinds	2,848,090	3,227,606	1,522,266
19. Building materials:—cement, brick, tile, roofing and building paper, insulating material, building hardware, glass, putty, paints, varnishes and brushes, wood screws, nails, screw hooks and eyes, sand, lime, and miscellaneous	1,320,137	1,663,330	183,530
20. Electrical equipment and supplies:—motors, batteries, wire and cable, etc	1,595,835	2,157,674	403,100
21. Crushing, grinding and screening machinery and parts:—ball and tube mill liners, roll shells, etc	1,225,233	894,292	103,097
22. Filter cloth, rotor covers and ore dressing blankets	110,091	195,876	....
23. Balls and rods for grinding	1,214,385	666,061	....
24. Machinery, mill, n.o.p., and parts	1,528,192	751,225	13,284
25. Machinery, mine, n.o.p., and parts:—steel shop equipment, hoists, mine pumps, etc	1,721,799	911,587	620,747
26. Machinery, smelter, n.o.p., and parts	33,676	1,854,361	....

PURCHASES OF MINING AND MILLING EQUIPMENT, GENERAL SUPPLIES, AND FREIGHT—Conc.

—	Gold Mining	Base Metal Mining, Smelting and Refining	Coal Mining
	Value f.o.b. plant	Value f.o.b. plant	Value f.o.b. plant
	$	$	$
27. Machinery, miscellaneous, and parts:—machine shop, blacksmith, carpenter shop and general surface equipment	666,439	554,113	214,051
28. Motor cars, trucks and accessories	190,944	189,077	68,002
29. Tools:—brooms, picks, shovels, hammers, handles, saws, wrenches, machinists' tools, etc	237,850	248,327	63,273
30. Welding and cutting equipment and accessories:—oxygen, acetylene welding, rods, tips, etc	135,232	234,751	41,512
31. Rubber goods, suits, boots, hose and accessories, pump valves, launder linings, etc. (not including belts)	240,641	304,565	32,247
32. Flotation reagents	215,382	1,243,247	....
33. Cyanide and cyanide plant chemicals	1,458,666	387,993	....
34. Acids and chemicals, n.o.p	239,617	539,978	6,599
35. Refractories:—brick, cement, fireclay, etc	91,441	1,292,360	16,440
36. Smelter fluxes:—fluorspar, limestones, quartz, sand, etc.	27,364	1,255,241	....
37. Hospital equipment and medical supplies	58,850	29,553	7,790
38. Stationery, office equipment and supplies, survey and drafting equipment and supplies	240,002	227,324	82,212
39. Miscellaneous materials, n.o.p. Includes all materials not otherwise provided for in any other item	2,542,422	1,343,199	2,048,043†
40. Power—electric	4,517,217	6,327,729	1,423,012
41. Freight (a) incoming—only amounts paid direct to Railway Company	2,155,769	8,597,961	351,159
(b) outgoing	117,463	3,894,949	1,272,008
42. Express (a) incoming—only amounts paid direct to Express Company	65,493	39,901	15,193
(b) outgoing	72,402	15,861	588
43. Insurance (a) Fire	575,493	223,869	123,427
(b) Sickness and accident	133,639	21,810	2,958
(c) Group	154,335	111,580	16,553
(d) Workmen's compensation	1,540,101	1,026,106	1,181,999
(e) Bullion	131,750	6,626	....
(f) Other	90,904	26,288	25,571
Total	**40,625,357**	**59,331,709**	**12,725,330**

†Includes railway locomotives and rolling stock, $443,429; underground mine cars, $234,227; coal cuttins machinery and parts, $404,439; horses and horse keep, including purchases of horses, oats, hay, harnesg, etc., $224,064; ground limestone for dusting, $38,358.

The resulting figures are as follows:—

1941 gold production—Ontario—total $123 million, was paid out or utilized for:—

Payment of	Amount	Proportion of $1	Application of % to total 1944 mineral production of Canada
Wages	$42 million	·34	$165 million
Fuel and power	6	·05	24
Supplies	14	·11	53
Freight, refining, etc.	2	·02	10
Depreciation of plant	7	·06	29
Taxes	14	·11	53
Dividends to shareholders	35	·29	141
Surplus	3	·02	10
Total	$123	$1·00	$485 million

The last column results from the application of the proportion of the dollar figures obtained from the gold mines study of the total mineral production of Canada in dollars for 1944 and while no claim can be made for the accuracy of the results obtained, these results will be close enough to give some general idea of the amounts involved.

The above figures have reference only to the experience of the companies. The position of the shareholders is again affected by taxation. There is no way of telling in what income brackets these shareholders are found. If it be assumed that they pay an average of 40 per cent of their income to the Dominion, then the dividends actually received by them are reduced to 17 cents and the figure for taxes is increased to 23 cents.

The Dominion Bureau of Statistics published a statement of "Purchases of Mining and Milling Equipment, General Supplies, and Freight and Insurance Expenditures by Mining, Smelting and Refining Industries in Canada in 1937". The summary of this statement is set out in Table 10. In 1937 when the total production value of gold and base metal mines in Canada was $334 million—their purchases amounting to $100 million.

In 1942 the total value of all mineral production in Canada was $567 million so that the purchases of all these mining operations probably amounted to $170 million. In studying the Bureau of Statistics figures of details of these purchases, therefore, it would be approximately correct to increase this by 70 per cent.

2. *Employees Purchases.*

The tabulation shown on Plate 10 makes no reference to the purchases of food, clothing and personal requirements of the 112,000 men together with their families, shown to have been engaged in the industry in 1943.

The Department of Labour (Canada) in a pamphlet titled "Prices in Canada and other Countries 1940", issued as a supplement to the Labour Gazette in March, 1941, contained the annual living expenditures of an urban wage earner family as follows:—

Budget Group	Expenditures Average	Percentage Distribution	Purchases for Mining Payroll, 1943
Food	$ 443·00	31·3	$ 65·0 million
Shelter	269·50	19·1	39·7
Fuel and light	90·50	6·4	13·3
Clothing	165·80	11·7	24·0
Home furnishings	125·70	8·9	18·5
Health	60·80	4·3	9·0
Personal care	23·90	1·7	3·6
Transportation	79·30	5·6	11·6
Recreation	82·10	5·8	12·0
Life insurance	73·30	5·2	10·8
Total	$1,413·90	100·0	$207·5 million

The final column "Purchases for Mining Payroll 1943" has been added. The figures are obtained by applying the Department of Labour per cent Distribution figures to the total annual mining payroll for 1943 as contained in Plate 5, namely, $207,575,955.

The same Department of Labour pamphlet "Prices in Canada and other Countries 1940" contains on page 7, the results of a survey which indicate that the average Canadian family is made up of 4·6 persons.

A survey of all the employees in the operating gold mines of Ontario as of June 30, 1943, showed—

Married employees	9,325 or 78%
Single employees	2,640
Total	11,965

If we first apply this proportion to the total employees engaged in the Mining Industry of Canada (112,140 during 1943) we find—

Married employees, 78% of 112,140	87,469
Single employees	24,671
Total	112,140

Application of the Department of Labour figures would indicate therefore that the number of *directly supported* persons resulting from this employment is—

Married employees 87,649 × 4·6	402,358
Single employees	24,671
Total	427,029

In addition it should be borne in mind that mining, being a primary industry, provides the wherewithal to keep in business a goodly proportion of other industrial employees in Canada. Purchases of $100 million of supplies anually by the Industry, and of at least a further $150 million requirements annually by the employees and families, ensure business and hence employment for those other industries from which such supplies are obtained.

The supplying of $65 million worth of food each year in itself required the work of a lot of farmers and processors; the provision of Hydro power, freight haulage, $24 million worth of clothing and so on all down the line, all mean work for more people and support for their families.

While this Association has made no attempt to study the actual situation resulting from this creation of business for other industry, such a study was presented in 1943 to a Sub-Committee of the Committee on Reconstruction, appointed by the Dominion Government in 1943. The report of the Sub-Committee (on Natural Resources) sets out—

> It has been estimated, to quote from Dr. Scott Turner, director of the U.S. Bureau of Mines in 1932 that while we in the United States are producing say 6 billions annually, the employment of 2 millions provides direct support to perhaps 10 million people.
>
> When the raw materials furnished by our mines have been refined, processed and fabricated, their wholesale value is over $15 billion, and during this second period another 2 million workers have been kept busy, thus supporting another 10 million people.
>
> The third stage is distribution to the ultimate consumer and this amounts to $20 billions perhaps supporting 5 million people. Thus we account for the livelihood of 25 millions of our people.

This calculation arrives at a basis of 12½ people being supported for every person originally employed by the mining industry.

The same publication contains additionally—

> A study by the Salt Lake Chamber of Commerce indicated that in the State of Utah, more than 10 men were employed indirectly to serve one miner and his family, and that four more were needed on the farms to feed those dependent on his earnings.

This is a higher estimate than that of the Bureau of Mines and is simply quoted to illustrate the important position that mining fills in the farming industry.

While it is quite possible and indeed probable that the conditions in the United States, where a larger proportion of its mine products are brought through fabrication to a finished stage, result in higher ultimate employment in other and associated industries, it is clear from the large requirements of mines and employees for equipment and supplies, that some considerable proportion of the Scott Turner figure is applicable here. Probably a *very* conservative estimate would be one additional person directly employed for each miner working. If we then apply the Department of Labour figures for average families and our own figures for the percentage of these employees who are married, we arrive at a total of persons directly supported by the industry of 854,000, approximately 7 per cent of our total population.

Developing these figures further it is apparent that every employee engaged in mining is directly responsible for the support of 7·6 persons

A further study of this same information is of interest, namely, the relationship existing between the mining and ultimate treatment of a ton of ore for the recovery of the metals therein, and the number of persons supported thereby.

An analysis of the situation existing in 36 operating gold mines of Ontario during the half-year period January to June inclusive, 1944, discloses that 1·85 tons of ore were treated per employee per day. This figure would probably be roughly applicable to all types of mining in Canada, so that it can be said that the treatment of each ton of ore is responsible for the support at the mines and in allied industry of $\frac{7 \cdot 6}{1 \cdot 85}$ or four persons for one day.

4. *Manufacturing of Mining Equipment and Supplies*

In the early 1900 years and before, the mines in Canada perforce imported a great proportion of their requirements of equipment and supplies. With the growth of the Industry however, more and more of these requirements have been produced in Canada.

Companies such as, for example:—

Atlas Steel of Canada—Drill steel
Canada Car Company—Mine cars and equipment
Canada Wire & Cable—Wire ropes
Canadian General Electric—Crushers, furnaces, etc. (Allis-Chalmers)
Canadian Industries Ltd.—Powder, fuse and caps
Canadian Ingersoll-Rand—Hoists, compressors, pumps and drills
Dominion Engineering Co.—Crushers, ball mills and general mining machinery
Hayes Steel Products, Ltd.—Diamond drill bits
E. Long & Company—Filters, cars, cages
Nordburg Co. of Canada—Hoists and crushers

and a large number of others making machinery, and foundries producing grinding balls and steel and iron wearing parts for crushers and grinding mills, have been greatly enlarged as a result of the increasing demands of the Mining industry.

While the total figures representing the amount spent by the mines for these purchases have been given, it may be interesting to your Committee to have some specific figures from one of the type of companies concerned.

Canadian Industries, Ltd., producers in Canada, amongst other products of explosives, have provided the following information, as to the sales of high explosives.

Up to the end of 1928 no separate records were kept of the proportionate amount of their production going to mining as compared to supply to other manufacturers and classes of trade. Their total sale figures however, were:—

Year	Total sales in Canada all manufacturers. all classes of Trade (including Mining)
1912	34,000,000 lbs.
1915	27,000,000
1920	22,400,000
1925	30,600,000
1928	43,400,000

Commencing in 1929, their records provide information as to the amount of high explosives sold in Canada to the metal mines—these show:—

Year	Sales to all Metal Mines
1929	29,000,000 lbs.
1930	25,500,000
1935	35,000,000
1940	61,000,000
1945	33,000,000

The large decrease in consumption by metal mines from 1940 to 1945 is accounted for by the decrease in gold mining activity during the war years. A breakdown of the figures shows:—

	Consumption by	
Year	Gold Mines	Base Metal Mines
1939	40,000,000 lbs.	18,000,000 lbs.
1940	41,000,000	20,000,000
1943	18,000,000	22,000,000
1945	16,000,000	17,000,000

These figures portray:—

1912—the last of the heavy construction period in Canada—harbours, docks and railroads.

1915—the rise of gold and base metal production.

1929—the last year of high prosperity before the depression.

1930—the start of the depression period resulting in a severe drop in base metal production.

1940—the peak production years for gold mining prior to the withdrawal of priorities therefrom.

1943-45—the severe drop in gold mining activity during the war.

In addition to the substantial high explosives production in Canada directly encouraged and made possible by the Mining Industry, Canadian Industries, Ltd., in 1920, and as a direct result of the growing gold mining business, built one of the most modern plants in existence for the production in Canada of fuses, previously all imported from other countries.

SECTION III.—*Influence of Mining on Other Businesses*

(Presented by Mr. Balmer Neilly, Director, Ontario Mining Association)

The CHAIRMAN: Do honourable members desire to ask Mr. Neilly any questions on this section of the brief?

Hon. Mr. PATERSON: Do those figures include money investors have put into mines and never heard of again?

Mr. NEILLY: Which figures do you refer to?

Hon. Mr. PATERSON: The amount of money invested in gold mines and prospects.

Mr. NEILLY: We do not give that figure.

Hon. Mr. PATERSON: It would be considerable, though, would it not?

Mr. NEILLY: Yes; but it is impossible to get a figure sufficiently correct that you would want to quote.

Hon. Mr. PATERSON: It would be quite important in the mining industry if it was not for some of the good mines.

Mr. NEILLY: Yes. The prospecting and early development stages of mining is an out and out gamble. It can be described as nothing else.

Hon. Mr. PATERSON: Does as much go into the ground as comes out?

Mr. NEILLY: We take considerably more out than goes in. That condition, I think, did prevail up to 1918, but since then we have been paying it back.

Hon. Mr. HAYDEN: Those figures are only in relation to operating mines?

Mr. NEILLY: That is so.

Hon. Mr. HAYDEN: So we are left to estimate just how much money is spent in prospecting, and even in doing successive development work on properties that never get to the stage of production.

Mr. NEILLY: Yes.

Hon. Mr. HAYDEN: Could you make a guess as to that?

Mr. NEILLY: No. When you get down to individual facts they are not there; it cannot be done.

Hon. Mr. HORNER: The next section will deal with that phase of the matter.

Mr. NEILLY: Yes, the number of claims staked, and so forth.

Hon. Mr. HAYDEN: Is there any way of relating cost, say, in a certain camp to the tonnage produced?

Mr. NEILLY: Yes, that will come in the later part of the brief with some exactness.

Hon. A. L. BEAUBIEN: At page 15 of your brief you quote Dr. Scott Turner, Director of the United States Bureau of Mines, and you say, "This calculation arrives at a basis of 12½ people being supported for every person originally employed by the mining industry." Does that include coal mining?

Mr. NEILLY: No, he had reference to metal mining only; at least, that is my understanding, sir.

Hon. Mr. HORNER: The figures give the number employed. Would that be for the whole of Canada or only for Ontario?

Mr. NEILLY: The province of Ontario unless it states otherwise.

Hon. Mr. McDONALD: On page 9 you state that in 1942 49,000,000 tons of the total of 134½ million tons hauled by the railroads, or 36·4 per cent of the tonnage handled, was made up of mineral products. That seems to be a large figure.

Mr. NEILLY: Well, that, sir, is taken from the Department's statistics. Of course, any mineral products do include coal, and that is a very considerable item.

Hon. Mr. McDONALD: Outside of coal, I suppose a lot of that tonnage would be short haulages?

Mr. NEILLY: I have never considered it from that point.

Hon. Mr. McDONALD: You do not know the value in dollars and cents to the railroads in hauling that freight?

Mr. NEILLY: We have never been able to get sufficient co-operation from the railroads to break that down, sir?

Hon. A. L. BEAUBIEN: I come from a farming district in Western Canada. A lot of farmers there think that the wheat they produce is the greatest thing in the world, and rightly so.

Mr. NEILLY: Quite right.

Hon. A. L. BEAUBIEN: I am not asking you to do this now, but I think it would be a good thing for the Mining Association to educate our people by getting out statistics of the amount of flour and other products of the farm that are consumed by mining communities.

Mr. NEILLY: I think that is a very useful suggestion.

Hon. A. L. BEAUBIEN: In Western Canada, until the Flin-Flon mine was opened we did not appreciate how important mining is to farming. There is a great lack of understanding on the part of our rural people in that regard, and your Mining Association could do a great work in educating them.

Mr. NEILLY: I am quite willing to admit that we are open to censure.

Hon. Mr. BEAUBIEN: I am not censuring you, I am merely making a suggestion.

Mr. NEILLY: I will go as far as that.

Hon. Mr. NICOL: You show the amount of power used in 1942. Was that all taken from the Hydro-Electric Commission?

Mr. NEILLY: Most of our power comes from the Hydro. In 1942 the Northern Canada Power Company was operating in Northern Ontario in a big way and would be supplying at least as much power as Hydro. Since that time Hydro has purchased the Northern Canada Power Company and now pretty well controls the northern country.

Hon. Mr. NICOL: What do you pay for that power?

Mr. NEILLY: We pay $27.50 for the first 5,000 horse-power and $22.50 for the next 5,000, calculated, I think, on a peak power of five minutes.

Hon. Mr. DUFFUS: How does it compare, relatively speaking, with private production?

Mr. NEILLY: Of power?

Hon. Mr. DUFFUS: Yes, present-day conditions as compared with the past.

Mr. NEILLY: We used to pay $50 per horsepower until about two years ago, when the price was broken down to its present level. Originally the price was $50 per horsepower a year on peak basis.

Hon. Mr. DUFFUS: I think it is a fairly satisfactory brief, Mr. Chairman.

Hon. Mr. BEAUBIEN: I notice that on page 14 you state that application of the Department of Labour figures would indicate that the number of directly supported persons resulting from employment in the mining industry of Canada is married employees 87,649 multiplied by 4·6—is that dependents?

Mr. NEILLY: We took all the married employees employed by the gold mines and calculated how many dependents they had, and that was the average, 4·6.

Hon. Mr. CRERAR: That is the Labour Department's figure?

Mr. NEILLY: Yes.

Hon. Mr. BEAUBIEN: I suppose the generous facilities described by Mr. Dye as accorded to the men who work in the mines would help increase the dependents, would it not?

Mr. NEILLY: We are very optimistic in that respect.

Hon. Mr. HAYDEN: And in the figures.

Mr. NEILLY: Yes.

Hon. Mr. McRAE: I take it, Mr. Neilly, that the mines prefer a married man with a family?

Mr. NEILLY: On the whole. But when a young fellow starts at the mine he makes good money and, generally speaking, he can find a house and it is not very long before he joins the married ranks.

Hon. Mr. CRERAR: And starts raising a family.

Mr. NEILLY: Yes.

Hon. Mr. HORNER: The mining company does not object to renting its houses to men with children?

Mr. NEILLY: No, not at all. If we did we would have no men.

Hon. Mr. McRAE: Mr. Neilley, I think you might add a word with respect to the subject I brought up with Mr. Dye, that is, as to the facilities provided for the men. I know he is associated with a mine that takes very good care of its men. I think you might tell us about the sun baths and things like that which you provide for the men after they have been underground all day.

Mr. NEILLY: I am very happy to say a word or two on that, sir. For many years what we call the dry house at the mine was just a place where you put on overalls and you pulled them off when you came off, and went home dirty and tired. A few years ago a great change came over the north country, and I think we were perhaps one of the first mines where a new type of dry house or change house was put up. A man to-day comes to work in his street clothes. He goes into one part of that dry house where he has a locker the same as any other man; he takes off his clothes; he walks naked through a partition to a second section where his mining clothes are; he dons those. While he is doing so there is a certain amount of aluminum powder put in the air, which we believe will give him almost positive protection against developing silicosis; it is only a matter of five or ten minutes while he dons his underground clothes; he goes down below; when he comes back he reverses the process, takes off his working clothes, and then goes through a showerbath—hot water first and then cold; then he gets on a travelling belt and is subject to a lamp ray that is the equivalent—we hope it is the equivalent of about eight hours in the sunshine. After going through that process he proceeds to that part of the change house he first entered, dons his street clothes and is ready to go home or go over to the recreation room and do anything he likes.

Hon. Mr. HAYDEN: How long does that exposure take before the lamp?

Mr. NEILLY: About three minutes.

Hon. A. L. BEAUBIEN: Have you had any difficulties with labour?

Mr. NEILLY: No.

Hon. BEAUBIEN: Generally speaking, there is not much difficulty in the metal mining industry with respect to labour?

Mr. NEILLY: We seem to get along all right.

Hon. A. L. BEAUBIEN: How long have your men been working the eight-hour day?

Mr. NEILLY: It would go back to 1917 or 1918. It used to be from what we call face to face—he went to work on his own time. Then came the eight-hour day seven or eight years ago.

Hon. A. L. BEAUBIEN: Before that it was ten hours?

Mr. NEILLY: Ten hours. Occasionally some men work on Sunday, but usually they work six days a week.

Hon. Mr. MCRAE: That is necessary in every manufacturing operation.

Mr. NEILLY: We have to pump water on Sundays.

Hon. Mr. MCRAE: There are certain things you can do safely when the men are out of the mine.

Mr. NEILLY: Yes. Then the mill is a continuous process.

Hon. Mr. HAYDEN: But the men work six days a week.

Mr. NEILLY: Yes.

Hon. Mr. HORNER: It would cost too much money to stop the machinery?

Mr. NEILLY: The ore in the tanks, where it is being leached with cyanide, would settle down and it would take all next week to get going again.

Hon. Mr. DUFFUS: Have you any information in regard to strikes?

Mr. NEILLY: The last strike in Cobalt was in 1919. We had one in Kirkland Lake four years ago. Those are all the strikes we have had.

Hon. Mr. HAYDEN: What is the starting rate of pay?

Mr. NEILLY: Mr. Dye, what is the minimum rate of pay?

Mr. DYE: There are some employees on the surface who are paid as low as 58 cents.

Hon. Mr. HAYDEN: Underground?

Mr. DYE: That is 68 cents.

Hon. Mr. CRERAR: That is the base pay?

Mr. DYE: Sixty-eight cents is for helpers, the minimum.

Mr. NEILLY: In the brief we show that the metal-miner makes about $1,950 a year, plus the extras Mr. Dye spoke of before, bringing the whole to about $2,200 on an average.

Hon. Mr. McRAE: Is this the place to ask this question? The Chicago representatives of the labour organizations have made demands for certain advanced rates of pay in mines; if those higher rates were in effect what would they raise your cost of production?

Mr. NEILLY: There are different ways of calculating that. If you were to take those points; there were eight of them—I am told you can figure out where a man under certain circumstances would be paid twenty-one weeks in the year without doing any work. It is quite apparent that every mine could not do that.

Hon. Mr. McRAE: It has been estimated that it would affect seriously what we call the lower value mines, that is, the mines where the ore grade is $6 or $7 a ton. If the report I have heard is correct, that is a serious matter. I want to get from you some kind of statement as to what that additional cost would mean.

Mr. NEILLY: There is no doubt about it, if the seven or eight points were granted no mine could run. You can figure it out. One man can produce one point eight tons a day—let us say two tons and make it easy to calculate. If you raise the man's wages $1, you add to the per ton cost 50 cents. You can easily calculate these things.

Hon. Mr. CRERAR: If you get your cost so high what is otherwise wealth in the form of ore is just waste rock.

Mr. NEILLY: Yes. Later on you will be shown the average profit per ton is $1.90. You have only to increase your labour cost to $3.80 per day, and there is no profit left. That would not be a perfectly good picture, because in such a case you would continue so long as you could find ore of sufficiently high grade to pay your operating cost, but the shrinkage would be so fast that you would see an end of the industry within a few years.

Hon. Mr. CRERAR: The effect would be to shorten the life of the mine.

Mr. NEILLY: Destroy it.

Hon. Mr. CRERAR: Yes, even if you had a body of high-grade ore.

Hon. Mr. NICOL: In your brief you discuss mostly gold mining?

Mr. NEILLY: Yes.

Hon. Mr. NICOL: Exclusively?

Mr. NEILLY: No, not exclusively, but we are a little better posted on gold mines than on base metal mines. There are only a few base metal mines operating. But if there is any data, Mr. Chairman, that your committee would like that we do not present before this brief is completed, we will be very happy to get it if it is at all possible.

Hon. Mr. McDONALD: Do you know whether anything can be done to reduce the high-priced salesmanship of worthless stocks?

Mr. NEILLY: My answer to that is, first, to educate the public. As a matter of fact, most of the people that are dabbling in so-called mining stocks today are really not investing, they are not even speculating. Actually they are buying those stocks and for all practical purposes betting that they will find somebody crazier than they are to pay them more than they paid for them. It has not anything more to do with mining than the speculation that takes place on the Winnipeg Grain Exchange has to do with farming. If somebody gets hurt there he does not blame the agricultural industry.

Hon. Mr. HORNER: That does nothing to assist the growing of your wheat either.

Mr. NEILLY: No, nor has it very much to do with mining in all cases, perhaps in some.

Hon. Mr. NICOL: In regard to the figure you give in respect to gold and other metals, have you taken into consideration by-products?

Mr. NEILLY: Yes. The only by-product in gold production is a certain amount of silver. That is included in the dollar value of the gold. It is not big enough to differentiate.

Hon. Mr. HORNER: I suppose later on your brief will deal with the location of mines, and so on?

Mr. NEILLY: It does, sir.

The CHAIRMAN: Is it the wish of the committee that we stand adjourned until 4 o'clock this afternoon?

Hon. A. L. BEAUBIEN: Providing the Senate gives us permission to sit while it is in session.

The CHAIRMAN: We will take a chance on that.

The committee adjourned until 4 p.m.

IV. CONDITIONS PECULIAR TO MINING

1. *Finding New Mines*

Mines are not made but must be sought for, found and developed.

At the commencement of this Brief reference was made to the Canadian or Pre-Cambrian shield as favourable ground in which to seek for new metal mines. Gold and other metals, oil, coal and iron have also been found and are mined in the other mine rock formations making up the surface of Canada. The substantial metal mines of British Columbia are found in the Cordillera range, largely made up of other rock ages than the Pre-Cambrian, the oil and gas of Alberta and the North-West Territories occur in the sediments underlying the interior plains and the coal and other metals of the East Coast Provinces and of Newfoundland occur in the Applachian range made up for the most part of the Palaeozoic series of rocks there found.

Seeking for and finding new mines is becoming more and more difficult and expensive. It seems probable that the easily found deposits have been located and others must be searched for farther afield or under overburden or water that hides the outcrops. Labour, transportation, equipment and food costs are higher; these factors combined require that increasing amounts of capital be risked in finding successful mines.

2. *Prospecting and Staking*

The issuance of Prospectors Licences in Ontario, the staking and cancellation of claims, all as set out in Schedule No. 1 of the Mutch Brief, tells a graphic story of the vicissitudes and uncertainties besetting the prospector.

For the years 1918-44 inclusive, 206,426 new prospectors licences and renewals were issued, an average of 7,015 per annum.

For the years 1907-44 inclusive, 270,558 claims were recorded (average 7,120 per year) and 171,389 were cancelled (average 4,510 per year).

In the text of the Mutch Brief see pages 12-13, there are developed some figures showing that only one claim in every 4·5 staked, and one in every 2·7 recorded, survive to the stage of company incorporation. This makes up in part the cost of finding new mines.

3. *Company Formation and Development*

The above stakings resulted in eventual company formations of metal mining companies (see schedule 2 of the Mutch Report) to a total of 4,956.

Of the companies formed for metal mining Schedule No. 5 of the Mutch Report shows that to the end of 1944, 48 companies can be considered to have been economically successful, something less than 1 per cent of the number of the companies formed.

In the 99 per cent of companies formed therefore incorporation expense is undertaken and heavy expenditure for development in many instances incurred, but no successful mine now results.

The text of the Mutch Brief (page 13) refers to Schedules 3 and 4 thereof, where some 200 gold and silver mining companies in Ontario actually got to the stage of production but failed to record any taxable profit to the end of 1944.

It has not been possible to provide authentic data as to the expenditures incurred in these unsuccessful ventures. The experiences date back into the past to such an extent that the data are just not available. Old companies and their records have disappeared. However, when it is realized that the cost of mine development prior to production has frequently exceeded the cost of the ultimate complete plant required for its operation, it can be seen that large sums are involved.

This is another item of cost of finding new mines.

4. *Controlled Selling Price of Product*

The products of our mines, particularly metals which are practically all exported, are sold at a price set not by supply and demand factors in Canada, not with any relationship to cost of production in Canada, but at world prices fixed generally by supply and demand factors in the world at large.

ONTARIO MINING ASSOCIATION

BRIEF ON THE DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA

PLATE NO. 10A

PRODUCTION COST PER OUNCE (EXCLUDING TAXES ONLY)—ONTARIO GOLD MINES—BY MINING AREAS

Mining Area	1939		1940		1941		1942		1943		1944	
	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average
		$		$		$		$		$		$
Porcupine	11	20·56	12	20·75	12	22·79	12	24·32	12	23·87	12	26·53
Kirkland Lake	9	16·88	9	17·44	9	18·26	9	19·56	9	20·83	9	23·28
Matachewan	2	29·38	2	30·77	2	31·62	2	30·14	2	34·31	2	36·08
Larder Lake	3	28·29	3	23·92	3	21·55	3	21·94	3	22·52	3	29·42
Thunder Bay	4	24·79	4	25·31	4	26·88	4	27·93	4	31·02	4	34·98
Patricia	7	18·79	7	23·16	7	23·96	7	24·80	7	27·58	7	31·57
Total	36	19·77	37	20·54	37	21·91	37	23·44	37	24·05	37	27·13

TOTAL PRODUCTION COST PER OUNCE (INCLUDING TAXES)—ONTARIO GOLD MINES—BY MINING AREAS

Mining Area	1939		1940		1941		1942		1943		1944	
	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average	No. of Mines	Average
		$		$		$		$		$		$
Porcupine	11	23·17	12	25·74	12	27·94	12	28·89	12	28·76	12	30·61
Kirkland Lake	9	19·83	9	22·60	9	22·60	9	24·85	9	26·27	9	27·90
Matachewan	2	30·11	2	32·38	2	33·36	2	33·04	2	36·30	2	37·03
Larder Lake	3	28·78	3	26·07	3	24·81	3	27·04	3	27·40	3	32·60
Thunder Bay	4	25·92	4	28·09	4	29·87	4	31·09	4	33·23	4	36·06
Patricia	7	21·83	7	27·32	7	28·06	7	28·76	7	31·39	7	34·75
Total	36	22·35	37	24·17	37	26·64	37	28·00	37	28·73	37	30·95

TOTAL PRODUCTION COST PER TON TREATED (INCLUDING TAXES)—ONTARIO GOLD MINES—BY MINING AREAS

Mining Area	1939		1940		1941		1942		1943		1944	
	Tons Milled	Profit Per Ton	Tons Milled	Profit Per Ton	Tons Milled	Profit Per Ton	Tons Milled	Profit Per Ton	Tons Milled	Profit Per Ton	Tons Milled	Profit Per Ton
		$		$		$		$		$		$
Porcupine	4,907,066	3·18	5,291,723	3·30	5,450,010	2·60	5,136,184	2·27	4,132,645	2·31	3,739,264	1·86
Kirkland Lake	2,337,160	6·62	2,167,361	6·47	2,058,569	5·56	1,374,300	5·77	1,178,854	5·07	1,035,154	4·01
Matachewan	531,503	0·76	550,280	0·68	543,677	0·56	611,982	0·43	442,506	0·20	341,359	0·13
Larder Lake	532,032	1·36	841,273	2·18	1,117,604	2·52	1,135,975	2·13	980,570	1·93	752,852	0·89
Thunder Bay	447,901	3·05	499,255	3·19	503,919	2·58	510,994	2·38	421,919	1·71	304,667	0·83
Patricia	553,494	5·75	706,388	4·51	830,496	3·92	791,829	3·63	658,560	2·55	582,356	1·70
Total	9,309,156	4·08	10,056,280	3·76	10,504,275	3·17	9,561,264	2·75	7,815,054	2·54	6,755,652	1·94

Mr. Sumner H. Slichter, of Harvard University, in a pamphlet on "Wage Price Policy and Employment" issued in 1945, stated:—

> Profits should be thought of in relation to the rate of expansion which they induce—a given outlook for profits will induce new capital to enter industry as rapidly as old capital is forced out or withdrawn; a better prospect will induce a certain rate of expansion and a still better prospect an even faster expansion.

While written as part of a study on the effect of higher costs (wages) these ideas are particularly applicable to metal mining with rising costs and controlled selling price of product.

Production costs of Canadian Metal Mines have experienced similar increasing trends to those applicable to most other industries. The tabulations set out in Plate 10(*a*) disclose the actual experience of Ontario's gold mines during the period 1939 to 1944 inclusive, and deserve some special study.

The average cost of producing an ounce of gold in all Ontario mines, during the period, including operating expenses and charges for depreciation, increased from $19.77 to $27.13. With taxes added the increase in the same period was from $22.35 to $30.95.

The last tabulation on Plate 10(*a*) interprets these figures into profits per ton of ore treated. Usually it is expected that with expanded production, hence the provision of a larger divisor, unit costs decrease somewhat. This has not been the experience in Ontario gold mining in the years under review. In 1939 with some 9,300,000 tons of ore treated, net profits per ton were $4.08. In 1941, the year of peak production as a result of wartime demand for gold, with 10,500,000 tons of ore treated, net profits per ton had decreased to $3.17. This figure has since then been progressively downward until in 1944 the net profit per ton treated had fallen to $1.94. The figures for 1945 are not yet available but based on general knowledge of the conditions prevailing, we would guess the profit per ton position will suffer still further reduction.

A manufacturing industry supplying the domestic market finds it generally possible to base the selling price of its product upon cost figures. In other words, subject to the controls exerted by competition, it can protect itself against increasing costs at the expense of the consuming public.

It is true of course that a mine has some controls against operating losses brought on by increasing costs. These controls, however, in the light of the fixed selling price for its product, can hardly be looked upon as good economics for Canada. The controls are:—

(*a*) *It can high grade the mine.* That is to say, it can by selective mining methods confine its production to the higher grade sections of the mine, so raising the unit value of the ore removed, and leave the lower grade ore, now not economically treatable, in place.

This practice has two serious results:—

The ore so left in the mine will probably never be recoverable. Cavings of old workings and the necessity for backfilling or other safety measures, removes it for all time from profitable recovery.

The life of the mine is shortened by the loss of available tonnage. The benefits from the metal content of that ore are lost for all time to labour, industry, farmers, governments and shareholders alike. This factor is of such vital importance to the well-being of Canada that it seems appropriate to refer again to page 15 of this Brief, where it is shown that the mining and treatment of one ton of ore results in the support, at the mine and in allied industry, of four Canadians for one day.

(*b*) *It can cut down on its expenditures for ore finding or development in the mine.*

This practice could only be resorted to as an emergency expedient. Many mines, particularly gold mines, were forced to adopt this method in part during the latter years of the War. Great shortage of workmen (due largely to enlistments) and lack of equipment (new and replacements) through lack of priorities, made it essential to take drastic though uneconomic steps in order to keep the mines in operating condition and avoid the much more serious step of suspending operations.

The adoption of this practice created false profits for the time being through the cessation of normal and necessary preparatory work in the opening up of mineable ore. Eventually it could only result in financial disaster through shortage of sufficient ore to keep its treatment plant in full production.

(*c*) *It can reduce its costs.*

In another part of this Brief it was shown that the production value of Ontario gold mines was distributed roughly as follows—

Wages		.34
Fuel and power		.05
Supplies		.11
Freight, refining, etc.		.02
Depreciation of plant		.06
Taxes—Company	.11	
Shareholders (est)	.12	.23
Dividends (less taxes)		.17
Surplus		.02
		$1.00

The chief controllable items are wages and taxes, with dividends including return of capital, running a poor third.

Apart from the natural controls of world price, the Mining Industry in Canada came definitely within the war price control structure set up by Governments in all Allied countries. The price of gold was fixed at $35 U.S. and U.S.-Canada exchange rate was fixed at a premium of 10 per cent on U.S. dollars and in addition any free market there might have been in other countries was denied the gold mining industry in Canada through a regulation forcing such industry to sell its gold only to the Ottawa Mint. All of these controls are still in effect.

The base metal producers, by negotiation with Canadian and British authorities, agreed to sell all their product at the direction of these authorities and at the then going prices, with an escalator clause to provide for an increase in price at stated periods in line with increasing direct costs only.

5. *Wasting Asset*

Mining, including oil production, is the only business where the life span of any individual operation is definitely limited before it starts production. What that limit is can rarely be determined accurately. The fact remains however, that a given area of ground making up a mining property has within its confines only so much ore, and once that ore is removed it cannot be replaced. The mine is then worked out and closes and even its building and equipment assets, often far removed from ready markets and subject to high costs for transporting to such markets, have little if any value as salvage. Its complete value, including the original capital investment, is almost completely dissipated during its lifetime.

(*a*) *Dividends include return of capital*

It is obvious therefore that during the production life of any mine, such returns by way of dividends as are made to its shareholders, are a combination of return of the original investment plus earnings.

The system of taxation adopted in Canada does not assess or tax capital, so that some method of determining the proportion of such dividends or returns constituting return of capital, has been necessary. The method adopted has been the empirical proportional one in effect for some years and referred to as depletion allowance.

Were it possible ahead of time to determine how long any mine would operate and the actual value of its orebody, it would be equally possible to arrive at some definite amortization period, so to speak, when capital of an agreed amount would be returnable to the investor tax free.

Methods similar to this were tried in several countries, including the United States, but were found to be fraught with difficulties. Too many uncertainties were at all times present.

The amount of ore available and the metal contents are not accurately determinable.

The value of the ore body fluctuates with metal price and costs.

The life of the mine varies with geological and rock conditions not foreseen.

Probably a more important consideration than all these however, is the fact that such methods offer no serious encouragement to the search for and development of new mines. No regard is had for the large capital outlays that must be made in the search for and development of the many inevitable failures, before a profitable mine is brought into production.

Many countries therefore, now recognize depletion by an empirical formula similar to that adopted in Canada.

(*b*) *Life of Mines*

Capital risked in staking and testing the 3·5 out of 4·5 claims never getting to the state of company formation and in incorporating and carrying through the earlier development stages of 99 per cent of the mining companies formed, but never reaching the stage of profitable production, is insofar as these projects are concerned, lost to him who ventures.

The only chance he has to get any return, capital or otherwise, is from the successful mines that get into production, pay taxes and give some substantial return in the form of dividends.

It is only to the experience of such mines therefore, that we can look for an answer to the question—how long does a mine live?

We would submit in the first instance, that the data here presented to you have been collected from the comprehensive and actual records of mining over nearly 40 years' history in Ontario.

An average picture is presented which appeals to us as being the only basis on which a method determining a rate for depletion, such as that now in existence in Canada, can be judged.

The Ontario experience is sufficiently long and diversified to give a clear understanding of the past and, we believe, a close approximation of what may be anticipated in the future.

Silver

Ontario's silver history is for the present a closed record. The Mutch Brief, Schedule No. 11, lists the profitably productive silver-cobalt mining companies, and shows the number of years they paid Mines Profit Tax to the end of 1944 (no change since 1941).

There were 45 of these companies and they lived an average tax-paying life of 6·2 years.

Gold

The history of gold mining in Ontario is a continuing one and records are therefore subject to amendment from year to year. Schedule No. 10 of the Mutch Brief shows, to the end of 1944, the number of years that Mines Profit Tax was paid by the profitable productive gold mines of Ontario—68 in number, to which has been added the number of years of probable tax-paying life still to come, based on the published ore reserves figures divided by the 1944 production rate. The resulting figure of average life is 9·88 years. While the statement was first made that this history of gold mine life is a continuing one, it will be noted that for 29 of the 68 listed as being at some time profitable producers, their history has been, at least for the time being, concluded. They are closed down.

The combined experience to date in Ontario for all precious metal mines gives an overall average of profitably productive life of 8·42 years.

Base Metals

While similar conditions apply in general to base metal mines, experience in Ontario has been confined to a smaller number of properties brought into production. A wider field of activity than covered in the Mutch Brief would have to be examined to obtain a fair picture of the situation actually existing. While it is possible that such an examination would give similar results, other features applicable to base metal conditions would have to be borne in mind.

For example, the cost of plant required for a base metal property, including smelting and refining facilities, is so much greater than that required for silver or gold mining operations, that the mine life must be proportionately longer. The same requirement for a larger capital outlay for plant brings with it the necessity of carrying preliminary development to a more advanced stage, such that an ore position sufficiently substantial to justify the outlay may be demonstrated.

In the circumstances records of these operations should be carefully prepared over the experience of the several Mining Provinces in order that the position of base metal companies can be studied.

6. *Pioneering Aspect of Mining*

The Metal mining activities of Canada have been largely found in the unsettled portions of the country. In the main such activities in these areas are not confined to single operations.

Reference to Schedule 10 of the Mutch Brief showing a total of 68 gold mines that have paid Mines Profit taxes in Ontario discloses that:—

18 were located in the Porcupine Area
14 were located in the Kirkland Lake Area
10 were located in the Little Long Lac Area
5 were located in the Red Lake Area
2 were located in the Pickle Lake Area
19 were situated in isolated areas stretching from Berens River on the Ontario-Manitoba boundary line, east and south through the northern little populated section of the Province.

The mines in such areas were discovered and brought into production at staggered periods over a long period of time. In these areas in consequence, large and substantial settlements and communities have been built up.

The following figures from the Dominion Bureau of Statistics provide the data herein given—

Mining Area	Volume of Retail Trade—1941	Assessed Property Value for Taxation Purposes—1941	Gross Value of Manufacturers 1940
Porcupine	$16,217,300	$17,992,459	$1,806,936
Kirkland Lake	7,971,600	8,084,245	547,916
Rouyn	4,471,700	3,333,077	504,242
Noranda	2,283,600	7,780,680	Not Given
Val D'Or	1,326,400	2,807,823	212,829
Malartic	1,113,600	Not Given	Not Given
	$33,384,200	$39,948,284	$3,071,923

All these communities in Ontario and Quebec were established as a direct result of the commencement of mining in the area and are maintained by its continuance.

In Ontario the districts in which mining predominates as the main industry are as set out in the following table, which shows the growth of population from the 10-year census figures, from 1881-1941:—

TABLE SHOWING THE GROWTH OF POPULATION NORTH AND NORTHWEST OF NORTH BAY BY CENSUS DIVISIONS FOR TEN-YEAR PERIOD—1881 TO 1941 INCLUSIVE

	1881	1891	1901	1911	1921	1931	1941	% Inc. 1911 to 1941
Algoma	6,934	13,934	25,273	40,962	43,695	46,444	52,002	27·0
Cochrane	....	....	....	12,236	26,293	58,033	80,730	559·8
Kenora	4,564	4,984	10,369	19,507	19,139	25,919	33,372	71·1
Manitoulin	8,460	10,794	11,828	11,324	10,468	10,734	10,841	— 4·3
Nipissing	1,774	10,654	17,306	28,066	34,541	41,207	43,315	54·3
Rainy River	....	2,210	6,568	10,429	13,518	17,359	19,132	83·4
Sudbury	....	4,842	16,103	29,778	43,029	58,251	80,815	171·4
Thunder Bay	4,056	8,000	11,219	39,496	49,560	65,118	85,200	115·7
Temiskaming	....	....	1,252	26,592	26,657	37,043	50,604	90·3
Total	25,788	55,018	99,918	218,390	266,900	360,108	456,011	108·8
Total Ontario	1,926,922	2,114,321	2,182,947	2,527,292	2,933,662	3,431,683	3,787,655	49·9

While the population of Ontario increased during the period from 1911 to 1941 from 2,527,292 to 3,787,655 or by 49·9 per cent, the increase in the above districts on the same basis was from 218,390 to 456,011, or 108·8 per cent.

The T. & N. O. Railway, Ontario's pioneer railroad, shows that its freight revenues attributable to the mining industry, in 1941 were

Porcupine	$ 2,686,303.14
Kirkland Lake	1,279,743.10
	$ 3,966,046.24

The movement of population into these mining areas also resulted in the land settlement of the areas to some considerable extent.

The Dominion Bureau of Statistics shows—

Farm produce (lbs.) marketed in mining areas of Kirkland Lake and Timmins from July, 1940, to June, 1941

	Locally Grown lbs	Other Sources lbs.	Total lbs.
Kirkland Lake	9,126,716	20,356,366	29,483,082
Timmins	14,122,615	37,299,043	51,421,658
	23,249,331	57,655,409	80,904,740

approximately 29 per cent by weight of the farm produce sold on these markets was locally grown.

7. *Displacement of Imports*

In the main, we in Canada produce much more metal than we consume. Consideration of our import position with respect to the metals has not been a matter of importance for many years. The case of iron offers an exception to this general situation and recent developments of iron deposits in Ontario bring about a change in the iron import situation worthy of notice.

The following table shows the annual imports and production of iron ore in Canada for the years 1926 to 1943 inclusive—

TABLE SHOWING CANADA'S IMPORTS AND PRODUCTION OF IRON ORE FOR YEARS 1926 TO 1943 INCLUSIVE

Compiled From Dominion Bureau of Statistics Records

	Canada's Imports of Iron Ore Short Tons	Canada's Production of Iron Ore Short Tons
1926	1,465,715	Nil
1927	1,487,366	"
1928	2,222,897	"
1929	2,447,807	"
1930	1,485,429	"
1931	808,420	"
1932	67,567	"
1933	205,703	"
1934	977,341	"
1935	1,509,933	"
1936	1,317,033	"
1937	2,124,972	"
1938	1,302,430	"
1939	1,764,844	123,598
1940	2,418,237	414,603
1941	3,254,655	516,037
1942	2,701,968	545,119
1943	3,906,425	641,292
TOTAL	31,468,742	2,240,651

Up to the end of this period our net national imports of iron ore have been substantial. Our production has not nearly balanced our importations. Since 1943, however, two new producers in Ontario have commenced exporting, with the likelihood that they will add 1,000,000 tons per annum to the export column.

The Committee resumed at 4 p.m.

SECTION IV—CONDITIONS PECULIAR TO MINING.

(Read by Mr. Dye.)

Hon. Mr. HORNER: Does the paragraph dealing with the fact that one ton of ore provides a basis for the support of four Canadian for one day apply to the whole of Canada or to Ontario alone?

Mr. DYE: The estimate is based on an actual survey made in Ontario, and applies to the whole of Canada. In other words, the significance of the last part of this statement is, that one ton of ore mined and treated provides support for four Canadians for one day. That statement highlights the fact that is is very important that we run our mines in such a way that the last possible ton of ore is extracted from a mine regardless of how much profit there is in it, or whether there is any.

Hon. Mr. HORNER: You have made no estimate of the number of people who are living in Montreal and Toronto from the promotion of mines in Canada and on commission for sales of stock

Mr. DYE: No, I have not made such an estimate. It would be very interesting if it could be done. But to estimate the money that is lost in unsuccessful promotion would be, I think you would agree, impossible. I do not know where one would get the data for such an estimate.

Hon. Mr. HORNER: I have not read your brief through, but we are concerned with the increase in mining production and the opening up of new mines. There are people in this country who believe that the mining operation should be taken over entirely by the government. We do not know how soon we will be facing competition in the production of many metals by a country which is operating on an entirely government-owned basis. We need some suggestions as to some method for seeing that the venture money is at least spent on the ground, and not in some office far from the mine.

Mr. DYE: In Ontario we have pepped up the Securities Act, and I think we have a very able man at the head of the commission; further, much is being done along that line. However, I do not think the time will ever come when it will be possible to ensure everyone that if he puts money in a mine he is sure to win.

Hon. Mr. HORNER: I would not even ask that, but he at least should have a chance. We at least want to be able to protect our investors.

Hon. Mr. MCRAE: May I say, honourable senators, the Toronto Stock Exchange have asked to appear before us and there will be a chance at that time to get an answer to that question.

Hon. Mr. PATERSON: Senator Horner deals in horses, and I think he will admit there is a little risk there sometimes.

Mr. DYE: I was about to use that as an illustration.

Hon. Mr. BEAUBIEN: Mr. Dye, at page 21 of the brief you say that the net profits on a ton of ore have fallen to $1.94. That would seem to be a very low figure for the price of gold.

Mr. DYE: With respect to that the belief is quite general that when the price of gold went up from $20.67 to $35.00 that that made a very soft place for the mines to land; that is to say, this would all be profit. Regardless of what happens it has expanded the tonnage that could be mined at some profit. In other words, when the price of gold went up, it made a lot of rock which formerly was simply waste that could not be handled at all: it brought that waste within the economic grade.

Hon. Mr. BEAUBIEN: Which lowered your average?

Mr. DYE: That is right.

Hon. Mr. BEAUBIEN: I should like to have some information with regard to the marketing of gold.

Hon. Mr. MCRAE: May I, with the permission of the honourable gentleman, follow up that question of the profit of $1.94 per ton. That is an average profit?

Mr. DYE: That is right.

Hon. Mr. MCRAE: Have you made an estimate as to what effect the labour demands originating in Chicago have on the profits based on the tonnage?

Mr. DYE: Well in many cases it would completely wipe it out.

Hon. Mr. MCRAE: It would amount to more than $1.94?

Mr. DYE: In a great many mines it would amount to more than that. That is an average figure and there are of course obviously mines that would survive for a period in spite of that condition, but many of them would be wiped out at once.

Hon. Mr. MCRAE: You are a good operating man. In your own instance have you estimated what the effect would be?

Mr. DYE: Roughly we have run it out just under $2.00 a ton.

Hon. Mr. MCRAE: And you are what is called a high grade mine?

Mr. DYE: That is right.

Hon. Mr. MCRAE: It would result too in the leaving of more ore in the ground.

Mr. DYE: That is the first thing it would do, to convert a tremendous tonnage of ore which is now marginal or a little above marginal, into waste. The vital point there is that a ton of ore which is mined regardless of whether it makes a great deal of profit or any profit for anyone, does provide employment for people and furnishes a living on the basis of one ton for four Canadians for one day.

Hon. Mr. BEAUBIEN: May I ask another question, Mr. Chairman? At page 23 of the brief it deals with the marketing of gold and says that you are forced to sell to the Ottawa Mint?

Mr. DYE: That is correct.

Hon. Mr. BEAUBIEN: Can you tell just what it costs to market gold? What percentage is taken away from it?

Mr. DYE: I believe it was established that the actual cost to the Mint, that is to the government, was 16 cents.

Hon. Mr. BEAUBIEN: I do not quite follow you. Supposing you bring an ounce of gold worth $35.00 to the Mint today, what do they take away from that ounce of gold?

Mr. DYE: Thirty-five cents as, possibly, the refining charge—that is a marketing charge; there is a charge on top of that of so much an ounce for toughening, assaying and determining how much value there is in the deposit. This thirty-five cents is simply a charge on top of the costs for the service that is rendered in the marketing of the gold.

Hon. Mr. BEAUBIEN: You cannot market any gold ouside of that channel?

Mr. DYE: No, we are not permitted to; and an individual is not allowed to own it.

Hon. Mr. BEAUBIEN: Does the rate of exchange of 10 per cent affect the gold here?

Mr. DYE: Yes, we get that.

Hon. Mr. CRERAR: That is on the American price of gold?

Mr. DYE: Yes, on the $35.00

Hon. Mr. BEAUBIEN: You get that 10 per cent anyway?

Mr. DYE: Yes.

Hon. Mr. BEAUBIEN: In other words an ounce of gold is worth $35.00?

Mr. DYE: It is worth $35.00 plus 10 per cent which makes it $38.50.

Hon. Mr. CRERAR: Is there any open market for gold to-day?

Mr. DYE: There is no market that a Canadian producer can reach.

Hon. Mr. CRERAR: I am speaking of world markets.

Mr. DYE: In various places over the world they bid different prices for it up to as high as $80.00 or more per ounce. May I say, gentlemen, rather than answer all of these questions I would prefer to submit a little brief on them.

Hon. Mr. MCRAE: The report showing one per cent of the prospects coming into successful production is very discouraging. Has there not been a marked improvement in the methods of prospecting and locating of mines, which improved methods should raise that average considerably in the future?

Mr. DYE: Well, there certainly have been tremendous advances made in the knowledge of geology, and in the geophysical methods that are applied in the search for ore bodies. Whether or not more than one per cent of the serious attempts to bring in a mine will be successful from now on, is a question that no one could really answer. There may be more places found that people will try, but whether or not they prove successful is in the lap of the gods.

Hon. Mr. MCRAE: Let me put the question another way. Has not prospecting got away from the old haphazard methods and got down to more established business methods that should result in avoiding at least some of the failures of the past?

Mr. DYE: It is true that the old-time prospector has not got the chance that he had before, because most of the easily located exposures and surface locations have been encountered, and now it comes to a question of searching under lakes and so on, where diamond drills, geophysical methods and such things will come into play. That very fact makes prospecting more expensive than it has been in the past. To ask me to say that a larger percentage of the mines started from now on will be more successful than was the case in the past, is a little too much.

Hon. Mr. MCRAE: Is it too much to ask if you would anticipate better results than one per cent in future?

Mr. DYE: Well, the technique has been improved, decidedly so.

Hon. Mr. HORNER: Has there not been a great improvement in machinery?

Mr. DYE: The strange thing is this, that it is unusual to be able to go in now and, because of the advance in technique, mine ore bodies that it was impossible to mine years ago. Sometimes an old mine will be opened up and operated successfully, but that is due to new deposits of ore being found.

Hon. Mr. HORNER: There is a mine about sixty miles from here where some three or four hundred men are employed and a lot of ore is being taken out. I was inquiring if they intended to continue after the war, and they said they did, that they were finding additional ore and enlarging the mill. That mine is a success now, but I remember some fifty years ago, when I was a boy, a good deal of money had been spent on it, and it was considered a failure.

Hon. A. L. BEAUBIEN: On page 26 of your brief there is a reference to the Mutch brief, which I have not had time to look into. Your brief says that schedule No. 10 of the Mutch brief shows, to the end of 1944, the number of years that the Mines Profit tax was paid by the profitable productive gold mines of Ontario; and at the end of that paragraph you say:—

> While the statement was first made that this history of gold mine life is a continuing one, it will be noted that for 29 of the 68 listed as being at some time profitable producers, their history has been, at least for the time being, concluded. They are closed down.

What period would that cover?

Mr. DYE: Of the 68 listed as being at some time successful, 29 have suspended.

Hon. Mr. BEAUBIEN: That is, over a period of years?

Mr. DYE: That is right.

Hon. Mr. HURTUBISE: On page 26 of your brief, dealing with silver, you say:—

> Ontario's silver history is for the present a closed record.

What about the newspaper reports of a great reopening?

Mr. DYE: That is a matter of opinion. At the time this brief was written, or a short time ago, with silver at 35 and 40 cents an ounce, the showings or prospects were not such as to lead anyone to believe that anything more might be done with the silver ore around Cobalt, but with silver at 70 odd cents now and the prospect that it might go still higher in value, there is a distinct possibility that some silver ores in the area can be mined. Far be it from me to say there is not.

Hon. Mr. HURTUBISE: According to the information you have, the new development work is serious and on a big scale?

Mr. DYE: Well, they are making some serious efforts up there. Certain lessors have been working along through the years on a small scale and making a good thing out of going over the old mines.

Hon. Mr. BEAUBIEN: On page 28 you present figures showing that the volume of retail trade for various mining areas in 1941 totalled more than $33,000,000. Does that include the money spent on transportation as well as on the purchase of foods and other commodities?

Mr. DYE: Those figures show the volume of retail trade, that is sales through the local stores. Those figures were obtained from the Dominion Bureau of Statistics.

The CHAIRMAN: If there are no further questions, we will proceed with the next section of the brief.

V. SUMMARY OF FACTUAL PRESENTATION

In preparation for consideration of any indicated action designed to encourage mining and the future development of our great mining resources, a brief summarization of the material already before you, may be helpful.

Extent of the Industry

Area

While mining is carried on extensively in many parts of Canada, there remains great areas, especially in the favourable Pre-Cambrian or Canadian shield, yet to be explored.

Production

Canada's Mineral Production (1907-1944 inclusive) amounted to

Metals	6	billion	dollars
Non-Metals	4	"	"
All Minerals	10	"	"

Employment

The Canadian Mining Industry employed in 1943, 112,140 people.

The requirements of the Industry and of its employees provided the basis for support of a total of 850,000 persons, approximately 7 per cent of the Canadian population.

Employment in mining is full time and the average weekly wage is higher than in any other group.

One ton of ore mined and treated provides the basis for the support of four Canadians at the mines or in allied industries, for one day.

Export Market

Practically the entire production of metal mines is exported and provides foreign purchasing power.

Influence on other Business

Our railroads, producers of electric power and manufacturers of equipment and supplies of all kinds, benefit enormously and directly from the business of mining. Annual purchases of these commodities by the metal mines alone amounted to over 100 million dollars per annum, as far back as 1937.

Direct employees of mining in Canada and their families spend for their requirements over 200 million dollars per annum.

All this provides direct "support" for some 7 per cent of Canada's total population.

Conditions Peculiar to Mining

Mines must be found, money must be spent on—

Prospecting—One claim in 4·5 staked eventually gets into an incorporated mining company.

Development—One company in 100 formed eventually becomes an economically successful mine.

Metal mines depend almost entirely on the export market. The selling price of their product is therefore fixed or outside of their control.

The effect of increased direct costs therefore is not reflected in an increase of the price to the consumer but results in:—

1. A decrease in the amount of ore available and in the ultimate life of the mine,
2. A decrease in mine production and the new wealth created for Canada.

The life of any mine is definitely limited by the amount of ore available to it. Its life span is dependent on a wasting asset which decreases in direct proportion to production.

Returns to investors by way of dividends are in part a return of capital.

Mines are pioneers.

Correlation of Summary

Study of the factual data herewith compiled demonstrates, we feel without question, that Canada has in its mineral deposits been blessed with a great heritage. If one attempts to visualize the effect on this country and its utilities and industries at large, of a sudden cessation of all mining activity, an appreciation can be had of its past and immediate importance.

The question of the moment, however, is:—What can Canada hope for from this industry in the years to come? We believe that our Brief, through a study of the past, constitutes a sound basis for the following:—

(1) Possibilities for future expansion do exist.

(2) The existing mines have a definitely limited life.

(3) Great financial risks must be taken if new mines are to be found and developed.

(4) The recovery of risk capital expended in searching for mines and developing the many unavoidable failures can only be realized through returns derived from the much less numerous successes.

We feel that we are on safe grounds when we suggest to your Committee that the evidence herein placed before you has convinced you, if you needed convincing, that the retention of and indeed expanded development of the Mining industry in Canada is of vital importance to the country if it is to continue as:

1. A substantial source of new wealth,
2. A provider of the much needed steady employment opportunities for our Ex-Service men and our youth in the future, and
3. A continuing provider of substantial business to our industries and its utilities, and of foreign exchange through sale of its products.

VI. Recommendations

1. *Prospecting*

The proposals of the Dominion Goverment, placed before the Dominion-Provincial Conference still proceeding, outlined certain valuable assistance it intended to make available in co-operation with the Provinces. Such assistance included an expansion programme in the building of new roads into favourable mining areas, the building of airports in certain of those areas, an extension of the facilities for geological surveys and other matters of like import.

The whole foundation of the proposals is clearly described in the following words—

> In familiar terms, our objectives are high and stable employment and income, and a greater sense of public responsibility for individual economic security and welfare. Realization of these objectives for all Canadians, as Canadians, is a course in which we would hope for a national enthusiasm and unity.

The Government has clear and definite views on how those objectives can be attained. These views may be summarized very briefly as firstly, to facilitate private enterprise to produce and provide employment; secondly, to promote bold action by the State in those fields in which the public interest calls for public enterprise in national development; thirdly, to provide, through public investment, productive employment for our human and physical resources, when international and other conditions adversely affect employment. (see page 7—Proposals).

As a means of implementing those basic principles, the Dominion proposals make certain specific suggestions having to do with the encouragement of prospecting, as for example:—

(*a*) Activities for which the Dominion is fully responsible or is prepared to consider assuming full responsibility by suitable arrangements with the Provincial Governments wherever necessary.

2. Basic surveys, mapping, inventories, topographical and descriptive work on a national scale essential for the conservation, development and management of national resources; (The Dominion would provide to designated levels of intensity basic information for all parts of Canada...)

(ii) mapping, charting and air photography to designated levels of intensity...

3. General and basic research on resource development . . . general research on the economic utilization and extraction of resources;

(ii) Mineral and forest resources, including research on ore dressing, metallurgy, fuels, special problems of mineral extraction...

(*b*) Activities for which the Provincial Governments are responsible and which the Dominion is prepared to consider assisting, provided specific agreements can be reached.

2. Assistance to provide new access roads to undeveloped mining . . . resources.

(iii) Airports related to national resource development.

It is later stated in the proposals:—

The great export industries are agriculture, forestry, *mining* and to a lesser degree, fishing, an accelerated resources development program would provide alternative income to these great export groups if exports are low...

Increased incomes of primary export groups would greatly help the remainder of the economy by maintaining both consumption and investment outlay.

A decline in private investment expenditures releases workers of various skills from employment and lowers the amount of produce materials used. The resources development program would help provide employment directly and indirectly to many of these people.

These various suggestions are accepted and welcomed by the Industry as indicative of a widening interest on the part of the Dominion Government in the mining possibilities and the value of the Industry to Canada.

The proposed timing of this assistance, however, does not seem to meet the basic requirements of the Canadian needs. The whole value of national preparation or assistance of this nature is to be found in the facilities built up whereby the finding of new mines may be expedited and put into production. Such action will avoid in direct proportion to the importance of any finds so made, unemployment, not only through the absorption of new employees in those mines, but through the creation of immediate new demands on other industry and services in Canada.

This feature therefore of the Dominion proposals is disturbing in that they are presumably designed to be put into effect at the time of unemployment and depression, rather than as a safeguard against such occurrences.

The proposals contain:—

> The Dominion proposes to adopt a policy of attaching control of timing wherever it is paying grants for public projects, (i.e., mining, roads...) if the project can be reasonably postponed.
>
> In the timing of projects the Dominion would concern itself only with employment considerations, leaving to the Provincial and Municipal Governments the direction of their own investments, subject to the Dominion having discretion to determine in any one year the total value of projects, if any, on which it would pay timing grants within any Province.
>
> (*See* p. 26, Dominion proposals.)
>
> In periods of declining business activity, arising perhaps from depressions abroad, it is proposed that these expenditures will be boldly expanded.
>
> (*See* p. 8, Dominion proposals.)

The Industry takes the view that preparatory work of the kind dealt with in these proposals should not be held for use as a stop-gap for unemployment. The actual finding and developing of new mines, which can only be carried on after favourable ground has been opened up and prospected, is the answer to the provision of major employment to our Veterans and others, both in mining and in other industry. The Mutch Brief contains the Statement:—

> 56 per cent of Canadian Mineral Production is coming from mining areas discovered prior to 1910,
>
> 28 per cent from discoveries between 1910 and 1920,
> 11 per cent from discoveries between 1920 and 1930, and
> *only five per cent* from discoveries made since 1930.

An examination of the life history of the sixty-eight gold mines in Ontario that paid Mines Profits Tax in any year of their existence between 1910 and 1945 inclusive, and as listed in Schedule 10 of the Mutch Brief, was also made. The individual properties were tabulated in relation to their respective dates of discovery, without regard to discovery date of the mining area in which they were located, and their production history in the succeeding years recorded. The results of this examination are set forth in the graphs contained on plate 11 and show—

> Graph 1,—56 per cent of Ontario Gold production is coming from mines discovered prior to 1910,
>
> Graph 2 and Graph 3,—32 per cent from mines discovered between 1910 and 1920,
>
> Graph 4 and Graph 5,—6·4 per cent from mines discovered between 1920 and 1930,
>
> Graph 6,—5·6 per cent from mines discovered between 1930 and 1935,
>
> Graph 7,—No new producing gold mines have been discovered in Ontario since 1936.

Let us therefore take every possible step to find new mines as quickly as possible, and not wait for depression to hit us. A long time elapses between the finding of a new area and the putting into production of new mines. Unless new areas are found soon we may be faced with a dwindling of our present production activities. The old mines are surely being depleted to the point of eventual extinction.

2. *Development*

Pre-production development is the most costly and the most risky feature involved in the making of new mines.

Our Brief has already shown that Ontario's experiences over the years produce one successful mine from every 100 companies formed. On all these unsuccessful ventures money is spent in varying amounts, from a few hundreds to many thousands of dollars.

This pre-production development and search must be carried on if new mines are to be found to expand our mining business and to replace those mines presently operating and being surely worked out to the end of their life span. Ways must therefore be found to encourage those substantial risks being taken.

One method is obviously to ensure that the return to the investor from the smaller number of successful operations is sufficient to cover his capital losses in seeking for the eventual winner; this subject will be dealt with more fully under the next heading—"Operating Mines".

Certain relief measures are possible and desirable insofar as this phase of the industry's activities are concerned. These have already been made the subject of serious consideration by other bodies which have made the situation one for study.

The Canadian Institute of Mining and Metallurgy, an organization of professional personnel engaged in the mining and metallurgical business of Canada, prepared a brief, February 1944, for submission to the Honourable the Minister of Mines in Ottawa and the Honourable the Minister of Finance in Ottawa, which contained the following recommendations:—

> That all annual expenditures made by mining companies on outside exploration in any part of Canada, excepting cost of options or purchase of property, be allowed as a deduction from earnings before assessment for Dominion Income and for Excess Profits Tax.
>
> That as a means of bringing in marginal ore that would otherwise remain unmined, the Dominion Sales Tax be removed from all products sold to or imported by metal mines.

The Royal Ontario Mining Commission, September, 1944, a Commission set up by the Ontario Government for the purpose of enquiring into:—

(*a*) The necessity for and the methods of stimulating prospecting in Canada,

(*d*) The place of mining in post-war employment,

(*e*) Mining taxation. . . .

and other matters, recommended—

> That the Dominion authorities be requested to treat all expenditures on outside exploration by mining companies in any part of Canada (other than capital outlay, such as purchase of property and cost of option) as an operating expense to be deductible in calculating taxes payable to the Dominion under any of its taxing statutes. (Note—outside exploration shall be deemed to include surface exploration of all kinds, diamond drilling and prospect shaft sinking.)

A conference of the Provincial Ministers of Mines held in Quebec in April, 1945, issued a report which contained the following:—

> The Mining industry is capable of great expansion, thus providing increased employment and new wealth. It is necessary, in view of the industry being based upon a wasting asset, that new properties should be constantly developed. It is therefore considered that expenditures other than costs of operations or purchases of properties, arising from mine exploration and development, should be regarded as costs and therefore deductible for income tax purposes.

With these recommendations this Association is in agreement and commends them to your serious consideration.

3. *Operating Mines*

While all the recommendations contained under the headings "Prospecting and Development" have eventually a definite bearing on the successful carrying on of actual mining operations, there are certain additional considerations that bear specifically on the later stages of the mining business, namely, the operating properties.

We would again first refer to the specific recommendations, applicable to operating mines, as put forward by the three investigating bodies already quoted, namely, The Canadian Institute of Mining and Metallurgy, Royal Ontario Mining Commission and the Conference of Provincial Mines Ministers.

The Canadian Institute of Mining and Metallurgy recommended

That depletion allowance of 50 per cent of net earnings of metal and industrial mineral mines be allowed, and extended to dividends paid by such mines.

That taxes paid annually to Provincial Governments and to Municipalities be allowed as a deduction from earnings of all mining companies before assessment for Dominion Income and/or Excess Profits Tax purposes.

That, during the first five years of tax-paying life, mining companies be allowed to deduct from earnings, before assessment for taxes, depreciation up to a maximum of 25 per cent in any one year.

That the Dominion Bullion Handling charge of 35 cents an ounce be reduced to actual marketing costs to the Government.

That as a means of bringing in marginal ores that would otherwise remain unmined, the Dominion Sales Tax be removed from all products sold to or imported by Metal Mines.

The Royal Ontario Mining Commission recommended:

That the total Royalty paid annually by mining companies to the Province under the Mining Tax Act of Ontario be allowed as a deductible item before assessment under the Dominion Income War Tax Act and Excess Profits Act.

That depletion allowance for metal mines be fixed at 50 per cent of net annual earnings for company and shareholders alike, before assessment for Dominion Tax purposes.

The Conference of Provincial Mines Ministers recommended:—

In view of the fact that ownership and control of natural resources reposes in the Crown in the right of the Provinces and there is therefore an inherent right to royalties therefrom, the Conference recommends that all Royalties or charges arising by virtue of said ownership shall be an allowable deduction in arriving at or determining the amount of income subject to any income or excess profits tax.

It is recognized that mining is hazardous and speculative in all its stages, and that a mine is a wasting asset. In order to encourage capital in the mining industry, it is fundamental that the mines tax structure should be of such a nature as to offer a reasonable prospect of return of capital. It is felt generally that the present depletion allowances are not sufficient to ensure a return of capital particularly in new ventures, and in fact, are having the effect of discouraging mining development. Therefore, the Conference recommends that the rate of depletion allowances should be adjusted to conform with the principles set out above, and that immediate study be given this matter, in order to arrive at percentage allowances, both for companies and shareholders, which would be fair and equitable, for precious metals, base metals, coal and industrial mineral mines.

This Association wishes to offer its support to the various recommendations as follows:—

Provincial Mines Tax—Royalties

All the authorities quoted are in agreement in principle on this matter. In addition, the Dominion proposals presented to the Dominion-Provincial Conference, contained a reference to this subject. In speaking of the exclusive jurisdiction of the Dominion in the income tax field it was stated—

> There is one exception to the proposed exclusive jurisdiction which the Dominion Government feels should be made. This is in the case of taxes on profits from mining and logging operations. Mining royalties, Crown dues and other similar provincial charges are closely bound up with each provincial government's management of and expenditure on its forest and mineral resources. These charges are recognized costs of operation and as such can be deducted from taxable income for Dominion tax purposes. In general, however, levies of the royalty type, being based on volume of operations or gross rather than net income, discriminate against the weakest firms and prevent full exploitation of the least profitable resources. In some cases, therefore, provincial governments have chosen to levy instead on the basis of a net profits tax. Under the proposed agreement the Dominion Government would recognize such taxes as being the equivalent of royalties, etc. and as in the case of the wartime tax agreements, there would be no restriction upon the right of provincial governments so to tax profits from mining and logging operations. In addition, the Dominion Government would be willing to concede the provincial governments priority in this field, by treating such taxes as a cost for Dominion tax purposes, on a par with levies of the royalty type.

The Province of Ontario does not assess the mines or mining properties directly, but collects its mine revenue under the Mine Tax Act, a part of which revenue is paid over to the mining municipality in which the mine is located. Under the Mine Tax Act the mines pay a royalty to the Province based upon the value of the ore at the pit's mouth. This royalty payment is not allowed as an expense to the mine when calculating the Dominion Tax payable under the Income and Excess Profits Tax Act. This situation, combined with the steadily increasing rate of the Dominion levy, has not only resulted in greatly increasing the total tax burden, but it has resulted in increasing the proportion accruing to the Dominion Government to a point which, to us, seems beyond the realm of reason and justice. The Mutch Brief, Schedule 17, shows for example that in 1915 the total of Dominion-Provincial taxation levied on the metal mines of Ontario was $1,466,907 of which the Dominion took $437,925 or 29·85 per cent. In 1941 this total had increased to $30,459,198 of which the Dominion took $27,648,476 or 90·77 per cent.

Quite apart from the logical position of the Provincial proportion as a royalty, the Provincial and Municipal income is required to provide direct services to the Mining industry. Under the existing arrangement the Dominion takes 90 per cent of the taxes levied on the mines of Ontario, but the Province and the Municipalities probably make 90 per cent of the expenditures for the general services provided. This situation, we believe, should be corrected.

Depletion Allowance

The Mining industry of Ontario is not asking for and would consider it inadvisable to provide for a special taxation system of special rates of taxation for mining as compared with other industry in Canada. While, in common, we think with all citizens, we would like to see all taxation generally reduced or even removed entirely, we are content to take our place in meeting the country's need for national income.

On the other hand, the base in mining on which such rates are generally applicable, is open to serious question. Canada's whole system of taxation is tied on income earnings. Capital and capital gains are definitely freed from any levy.

The wasting assets of a mine and its definitely proscribed life, dealt with in our brief, combined with the large expenditures of irrecoverable capital involved in the seeking for and development of prospects that never become mines, make it quite clear we think that all returns received by a shareholder in the form of dividends from operating mines must be made up in part of capital.

Depletion allowance is an empirical method of determining what proportion of such so-called earnings is made up of capital and so under our established taxation methods, not properly subject to tax.

Depletion allowance in no sense can be considered a means of ensuring in any degree a return to the shareholder of his capital. It simply provides that such capital as he may get back will not be subject to tax either in his hands or in the hands of the company.

The recommendations of the three investigating bodies quoted to you herein vary in some degree. All are satisfied that some adjustment in the present established rates should be made.

We believe that this feature can be one of the most important means of encouraging the finding and development of new mines in Canada and the consequent great assistance in the provision of employment and in ensuring economic aid not only to the mining industry but to all those others, including Governments, involved.

We believe and advocate further that this whole subject should be made one for careful study of the Government in which study we as an Association would be glad to contribute information and advice to the limit of our knowledge and experience.

Removal of Sales Tax

This recommendation, made by the Mining Institute, is in line with the position of the industry as an exporter. Direct taxes of all kinds add proportionately to costs of products and handicap the exporter in foreign markets. They also definitely reduce the amount of ore available to the mines.

The Dominion during the last session of Parliament, gave partial recognition to the need for removal of sales taxes from producer goods.

The Honourable the Minister of Finance in his Budget speech, October 12, 1945, stated:—

> I have been impressed also with the extent to which the sales tax is having a discouraging effect on the rapid and efficient modernization of our production equipment. It is of importance that in the expansion of our peacetime exports used in the entry of the new industry into the export field this handicap to competition in the world markets, should be removed.

The resolution finally adopted to give effect to this pronouncement read:—

> That the consumption or sales tax shall not apply to machinery and apparatus and complete parts thereof, which in the opinion of the Minister of National Revenue, are to be used directly in the process of manufacture or production of goods.

The principles announced and presumably to be given effect to by this resolution are sound and supported fully by this Association. On the other hand the detailed working out of the plan has developed into a long time discussion and correspondence of a futile nature. The exercise of the Ministerial discretion as to machinery and apparatus used directly in the process of manufacture, has developed some odd situations to say the least, which are hard to reconcile with the obvious intention of the original speech by the Minister of Finance.

For example in Mining:—

Pumps that are used to handle corrosive waters or liquids are said to be used directly in the process and so tax free.

Pumps however that are used to handle ordinary mine water required to keep the mine operating, are said not to be in the direct process and so are taxable.

All piping used for handling this water and for providing ventilation to mine workings is said not to be used directly in the process and is taxable.

Cars, rails, fish plates and bolts for same, for ore transportation underground, are tax free, but the ties on which the rails are carried are taxable.

Another ruling provides that the hoists, cages and cables carrying the cages, used for hoisting ore to the surface are tax free, but the same equipment when used for lowering the miners to their work and raising them again to the surface after completion of their day's labour, are not used directly in production and are in consequence taxable.

To the Mining industry these fine technical distinctions are not only most difficult to understand, but the facts show them to be not only highly academic but of little value in the residual tax collecting aspect and of great cost administratively to Government and Industry alike. Here again it does seem advisable, in the interests of all concerned, that the effect of these discretionary rulings on the original intention of the Budget and on the administrative difficulties resulting, should be carefully reviewed.

Increase of Rate of Write-offs for Depreciation—New Mines

This recommendation of the Mining Institute is based on the fact that many mines are in production and pay taxes during a shorter period than the 6⅔ years required to permit complete absorption of even the first year's capital investment in plant under the 15 per cent per annum top limit presently permitted.

The premise on which the recommendation is based is proven to be correct from the data contained in the Mutch Brief. Schedule 11 shows that of 45 silver-cobalt mines in Ontario which paid Mines Profits Taxes to the end of 1944, only 14 paid for periods over six years.

Schedule 10 shows that of 67 gold mines in Ontario which have paid Mines Profits Taxes to the end of 1945, only 25 have paid such taxes for periods of over six years.

In addition it can be pointed out that in many instances the early years of production are the difficult years during which development and treatment problems are given prior attention. Profits from which benefits of write-offs can be realized therefore, are often low.

If a mining company's total investment in plant and equipment were *completed* in the first year it paid taxes, the present maximum rate of depreciation would permit full depreciation in the first 6⅔ years of its operating life. Experience teaches however, that the maximum expenditures for plant and equipment are made later, and total depreciation of this capital outlay is, in practice, seldom realized. In the early years of production most mining companies are hampered by lack of capital. They need funds, not for dividends but for purchase of additional equipment and to further their mine development. Their future is generally in jeopardy and depreciation at a maximum rate of 25 per cent in any one year would do two things:—

(a) In case the operation failed it would quite properly ensure the shareholders a greater return of their capital free from income tax.

(b) It would allow the company to retain a greater proportion of its income, which it could utilize to advantage in mine development and perhaps in increasing its production capacity.

If the mining operation proves to be a successful venture, the Dominion would lose nothing because plant and equipment expenditures can only be depreciated once. What is written off in these early years cannot be written off at a later stage in the operations.

This Association believes therefore that in mining, the rate set by the company for depreciation of its plant investment should be flexible and capable, at the discretion of the company, of being raised or lowered during the first five years of its earning life up to a maximum of 25% in any one year.

Bullion Handling Charge and Mint Overages

The Mining Institute recommended that the charge of 35 cents per ounce presently made by the Dominion Government to the gold producers, be reduced to cost. We agree with this view.

The position with regard to this matter is exactly analagous to that pertaining to the preliminary assaying of gold shipments made to the Mint on which payment is made to the producer.

Mint "overages" are brought about by the fact that the assaying of gold delivered to the Mint is found to be uniformly conservative. In other words, after the Mint has refined the gold for which it has paid, based on its own assays, it finds that it has more gold to sell than it has paid for. We recognize that it is impossible, when handling such huge quantities of gold, to do the assaying so that the dollar value will be exactly as determined. We recognize too that quite obviously the Mint must not pay for more gold than is delivered to it, and for that reason the routine used by the Mint in determining values must always be on the safe side—their side.

We believe that both the above matters should be adjusted.

With regard to the handling charge, it may be pointed out that producers must, by law, market their gold through the Mint and certainly should not be asked to pay more than the net cost of the service rendered by the Mint in that connection.

With regard to "overages" it should be pointed out that these have nothing to do with any service performed, but that they result from a known error in determining the value of the bullion delivered to the Mint. The extent of the error becomes known only after deposits of bullion at the Mint are balanced against sales of bullion by the Mint. Such overages definitely belong to the depositors—the gold producers—and are no part of any payment for services rendered since a refining charge on all deposits is made by the Mint, which charge presumably covers the cost of refining plus, it is assumed, a modest profit.

As to the Mint Handling Charge, House of Commons Debates, Wednesday, November 7, 1945, contains a question asked by a Member and the reply as follows:—

> Q. What is the handling cost to the Royal Canadian Mint of selling an ounce of gold?—A. Expenses incurred by the Department of Finance in selling gold in New York aggregate 15·9434 cents (Canadian) the ounce fine.

The charge to the gold producer for this service is 35 cents (Canadian) the ounce fine.

The overcharge to the mines therefore is approximately 19 cents per ounce, or applied to 1939 production (the last normal year before war conditions were effective) when a total of 5,049,379 ounces of gold were produced in Canada, amounted to $968,000 approximately.

This money the Industry feels quite strongly belongs to the producers. For reasons of Government policy they are presently denied an open market for their gold and forced to sell to the Government. It does seem reasonable in the circumstances that the full benefits to be derived from the restricted selling of its gold, should accrue to the Industry.

As to the Mint overages, House of Commons Debates, November 7, 1945, provide the answer to the following question therein asked by a Member:—

Q. What was the value of overages at the Royal Canadian Mint in the fiscal years 1942, 1943, 1944, for (*a*) gold; (*b*) silver; (*c*) platinum, group metals?

Hansard for November 19, 1945, provides the answer to the following additional questions therein asked by a Member:—

Q. 1. What was the value of overages at the Royal Canadian Mint for the fiscal years 1932 to 1941 inclusive, for gold and silver?

2. What disposition was made of the funds resulting therefrom?

The answer first to No. 2 of the second question was:—

Credited to the consolidated revenue fund.

The answer to the first question and to the first part of the second question, when consolidated, show:—

For the period 1932 to 1944 inclusive,

Total overages = 28,260 ounces of fine gold,
Value at \$20·67 = \$585,300.

The actual value however is well above this figure. Following a continuous rise from 1931, since 1939 the selling price has been fixed at \$38.50 (Canadian funds). Some 23,000 ounces of the total overages occurred from 1939-44 inclusive and this valued at \$38.50 is worth \$885,000. It is quite clear therefore that the amount of gold producers money not repaid to them over these years, is at least \$1,000,000.

The Association is of the opinion that an adjustment of these overages should be made proportionately, with the producers who have contributed to the fund, and that each year in future the amount involved should be distributed to them, the owners, rather than being credited to the Consolidated Revenue Fund of Canada.

In concluding our presentation may we say that the studies we have suggested being made are in our opinion vital to the proper planning of an orderly future development of this great industry. Our representations are made in the light of our experience as mining people and with a view to ensuring to Canada the maximum benefits that can be obtained in the years to come, but more immediately to ensuring that this Industry will in the near future be able to do its full share in pulling its weight in the effort to maximum reconversion of our whole industrial activities from war to peace. A realization of these aims will do much towards creating maximum employment for our valiant Ex-Members of the Active Service Forces. We need hardly add that in any such detailed studies made with a view to necessary adjustments, the Industry offers its full co-operation.

All of which is respectfully submitted,

ONTARIO MINING ASSOCIATION

(Signed) E. V. NEELANDS,
President.

TORONTO, May 14, 1946.

Section VI.—Recommendations.

(Read by Mr. Neilly)

Mr. Neilly: I shall be glad to answer any questions, Mr. Chairman, that you or the other members of the committee may desire to ask me.

The Chairman: Do the members wish to ask Mr. Neilly any questions?

Hon. Mr. Crerar: I should like to comment on the brief which the Ontario Mining Association have presented to us. It is very clear and contains a vast fund of very useful information. Evidently a great deal of work has been put upon it and, I am bound to say, Mr. Chairman, with very excellent results. As a member of this committee I should like to congratulate the association.

Some Hon. Members: Hear, hear.

The Chairman: If there are no further questions we will adjourn.

Mr. Neelands: Mr. Chairman and honourable senators, on behalf of my associates and myself I should like to thank the committee very much indeed for the kindly way in which they have followed our brief and for the very obvious interest which you have all shown in it.

In view of this manifest interest, the Ontario Mining Association would like to extend an invitation to all you gentlemen, or as many of you as can, to pay a visit to one or several of the Ontario Gold Mining Camps. I am sure that a proper understanding of this whole matter and also of the data submitted in the brief requires a visit of that kind. We all know that atmosphere means a great deal as to the attitude which one assumes in studying any question, and I am confident that we would be mutually benefited by my proposal. You would meet personalities and grasp some of our problems and see some of the enormous plants and buildings put into this work. If you could find it possible to accept the invitation we would be very glad to make the necessary arrangements at any time convenient to yourselves.

The Chairman: On behalf of the committee I wish to express to the gentlemen representing the Mining Association our appreciation of their co-operation in giving us all this information. It has been a pleasure to me to meet such a delegation.

Some Hon. Members: Hear, hear.

The Chairman: It is for the committee to consider when we shall meet again.

Hon. Mr. McRae: We could have a meeting on Wednesday as well as on Tuesday if that is the wish of the committee.

Hon. Mr. Crerar: We have power now, Mr. Chairman, to sit while the Senate is in session. In view of the press of work before our various standing committees I think we should plan to sit in the afternoon and get in all the briefs that are to be presented as early as possible.

The Chairman: Would it not be well to adjourn now, to meet again on Tuesday, and in the meantime have the steering committee arrange for further meetings?

Hon. Mr. Crerar: That would be a good idea.

Hon. A. L. Beaubien: I second the motion.

The Chairman: I declare the meeting adjourned until Tuesday next at 10.30 a.m.

The committee adjourned accordingly.

APPENDIX I TO BRIEF OF ONTARIO MINING ASSOCIATION ON DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA

SCHEDULES from Brief on Taxation on The Ontario Metal Mining Industry 1907-1941 by Douglas A. Mutch, B.A.Sc., and Balmer Neilly, M.E.

NUMBER OF *PROSPECTORS' LICENCES* ISSUED OR RENEWED ANNUALLY AND NUMBER OF *MINING CLAIMS* RECORDED AND NUMBER CANCELLED IN ONTARIO, FROM 1907 TO 1944 INCLUSIVE, AS PER ONTARIO DEPARTMENT OF MINES RECORDS

	LICENCES				CLAIMS	
Year	New Licences Issued	Renewals	Total	Year	Number Claims Recorded	Number Claims Cancelled
1907				1907	13,996	Data not avail-
1908				1908	4,634	able for 1907
1909	No			1909	9,746	1908-9-10 and
1910				1910	5,792	1912 (inclusive)
1911	Authentic			1911	9,001	361
1912				1912	3,104	(see above)
1913	Records			1913	4,320	442
1914				1914	1,913	7,913
1915	Available			1915	2,519	1,093
1916				1916	2,470	1,911
1917				1917	1,936	602
1918	1,013	2,006	3,019	1918	1,534	304
1919	1,854	2,262	4,116	1919	2,918	1,481
1920	1,154	2,416	3,570	1920	2,160	2,203
1921	1,481	2,113	3,594	1921	2,459	1,791
1922	2,783	2,577	5,360	1922	5,686	1,490
1923	2,844	3,704	6,548	1923	6,092	2,328
1924	2,676	4,466	7,142	1924	5,222	2,804
1925	2,391	4,439	6,830	1925	4,751	2,460
1926	6,631	5,521	12,152	1926	13,496	5,322
1927	6,923	7,221	14,144	1927	15,554	5,537
1928	6,059	8,688	14,747	1928	15,046	3,662
1929	3,271	8,049	11,320	1929	8,207	8,090
1930	1,554	5,885	7,439	1930	3,886	8,887
1931	2,174	4,808	6,982	1931	5,779	10,885
1932	2,035	3,670	5,705	1932	4,945	15,425
1933	3,365	3,911	7,276	1933	8,077	4,813
1934	7,409	4,757	12,166	1934	16,888	5,041
1935	3,335	5,113	8,448	1935	9,763	9,240
1936	7,170	5,961	13,131	1936	17,280	6,653
1937	5,511	8,344	13,855	1937	15,292	11,445
1938	3,445	6,224	9,669	1938	9,047	8,978
1939	2,096	5,617	7,713	1939	6,772	9,086
1940	2,183	3,287	5,470	1940	4,667	6,187
1941	1,001	2,252	3,253	1941	4,254	10,514
Totals	80,358	113,291	193,649		249,206	156,948
1942	1,251	2,605	3,856		3,593	9,008
1943	(*a*)	(*a*)	3,314		5,232	3,057
1944	(*a*)	(*a*)	5,607		12,527	2,376
			206,426		270,558	171,389

(*a*) Not Available

Schedule No. 1

NUMBER OF MINING COMPANIES AND SYNDICATES

INCORPORATED OR LICENSED IN ONTARIO, 1904-41, INCLUSIVE

Year	Number	Nominal Capital	Number	No Par Shares	Number Licensed	Capital
		$				$
1904	54	28,355,000	....	....	12	21,155,000
1905	99	27,509,000	....	....	17	33,699,000
1906	263	184,677,000	....	....	18	12,536,000
1907	321	319,876,000	....	....	15	15,000,000
1908	184	123,526,500	....	....	19	1,890,000
1909	282	236,883,000	....	....	9	338,200
1910	162	128,999,300	....	....	14	2,426,000
1911	213	215,640,000	....	....	19	7,125,000
1912	130	73,237,000	....	....	6	570,000
1913	119	78,000,000	....	....	12	21,735,000
1914	80	39,030,000	....	....	13	5,445,000
1915	59	42,005,000	....	....	2	10,200,000
1916	83	109,079,500	....	....	8	7,011,650
1917	100	117,183,000	....	....	7	7,202,000
1918	59	49,800,000	....	....	7	15,000,000
1919	149	223,600,000	....	....	10	9,554,197
1920	119	146,094,000	....	....	12	9,435,000
1921	67	105,715,000	....	....	6	1,030,000
1922	91	181,040,000	....	....	6	830,500
1923	88	179,295,500	....	....	6	1,775,000
1924	85	156,485,000	....	....	2	200,000
1925	70	107,400,000	4	9,010,000	3	162,510
1926	121	165,655,750	28	22,386,500	6	4,850,000
1927	173	344,145,000	30	40,034,000	10	3,260,000
1928	183	495,575,000	28	30,778,400	17	7,208,500
1929	71	142,390,000	27	32,557,200	13	1,540,000
1930	21	23,234,600	20	16,808,909	6	5,525,000
1931	31	60,670,000	15	5,909,000	1	400,000
1932	33	58,766,000	12	5,844,000	....	....
1933	76	158,365,000	21	23,165,000	8	1,290,000
1934	212	488,335,000	82	86,183,000	9	925,000
1935	116	205,320,000	24	18,054,500	1	40,000
1936	294	724,615,000	45	54,974,000	....	....
1937	312	505,670,000	30	31,883,100	....	....
1938	234	297,390,000	28	25,257,450	....	....
1939	137	195,650,000	20	10,374,000	1	10,000
1940	66	89,490,000	8	4,444,000	....	....
1941	55	77,970,000	14	11,390,400	....	....
TOTAL	5,012	6,706,671,150	436	429,053,459	295	209,368,557

SCHEDULE No. 2.

NUMBER OF MINING COMPANIES AND SYNDICATES INCORPORATED OR LICENSED IN ONTARIO, 1904-44, INCLUSIVE

Year	Number	Nominal Capital	Number	No Par Shares	Number Licensed	Capital
		$				$
1941 (Forward)	5,012	6,706,671,150	436	429,053,459	295	209,368,557
1942	38	41,955,000	7	7,410,000	....	....
1943	108	176,710,000	17	31,685,000	2	80,000
1944	320	885,570,000	38	82,788,000	....	....
Totals	5,478	7,810,906,150	498	550,936,459	297	209,448,557

SUMMARY

—	Nominal Capital	No Par Shares	Licensed	Total
	$			$
	5,478	498	297	6,273
Deduct mining companies and syndicates other than those formed for metal mining....................	1,067	120	130	1,317
Metal mining companies and syndicates incorporated or licensed..	4,411	378	167	4,956

SCHEDULE No. 2

LIST OF GOLD MINING COMPANIES IN ONTARIO

Which reached Production Stage but showed no Taxable Profit from Operations, to End of 1944—From records of The Ontario Department of Mines.

Acme Gold
Agawa Gold
Algold Mines
Algoma Summitt
Amca Gold
American Eagle
Amity Gold
Ankerite Gold
Ardeen Gold
Argonaut Gold
Argosy Gold

Barry Hollinger
Bathurst Gold
Big Master
Big Turtle River
Bilmac Gold
Blue Quartz Gold
Bobjo Gold
Bonetal Gold
Botham Gold
Bourkes Mines
Bousquet Gold

Camp Bay
Can. Associated Goldfields
Canadian Exploration
Canusa Gold
Casey Summit
Centennial Gold
Central Canada
Central Canada
Champion Gold
Churchill Gold
Cleveland Gold
Clifton Porcupine
Cline Lake
Cobalt Frontenac
Concordia Gold
Contact Bay
Cooper Gold
Cordova Gold
Craig Gold
Croesus Gold
Crystal Gold M. & Milling

Darwin Gold
Davidson Gold
Deep Lake Gold
DeSantis Gold
Devon Gold
Dik-Dik Gold
Dome Lake Mines

Edwards Gold
Elizabeth Gold
Elmos Gold
Elora Gold
Empire Mining & Milling
Empress Gold
English River Gold

Foley Syndicate
Fox Lake Gold

Gillies Lake Gold
Gilmour Gold
Gold Eagle
Gold Hill
Gold Pyramid
Gold Reef
Golden Fleece
Golden Reed
Golden Star
Goldfields Ltd.
Goldwood
Gomak Gold
Grace Mining

Halcrow Swayze
Harkness Hays
Hayden Gold
Hiawatha Gold
Hill Gold
Hillside Gold
Hoyle Gold

Imperial Gold

J. M. Consolidated

Kenland Gold
Kenricia Gold
Kenty Gold
Kirkland Gateway
Kirkland Lake Proprietary

Lakeland Gold
La Mine d'Or Huronia
Le Page Gold
Lucky Cross

Magino Gold
March Gold
McKellar Longworth
McLaren Porcupine
McMillan Gold
Mesabi Gold
Mikado Gold
Miller Independence
Mines Leasing & Development
Miracle Mine
Morris Kirkland
Moss Gold
Murray Algoma

Nakhodas Mining
New Golden Rose
New Goudreau Gold
Newray Gold
Night Hawk Peninsular
North Shores
Northern Light
Northern Turnbull

Olive Gold
Olympia Gold
Ontario Kirkland
Ophir Gold

Parkhill Gold
Porcupine Lake
" Paymaster
" Pet
" Porphyry Hill
" United
" V.N.T.

Ranson Gold
Redeemer Gold
Red Lake Gold Shores
Regnery Metals
Regina Gold
Rognon Gold
Ronda Gold
Rouen River Gold

Sakoose Gold
Sandy Beach Lake
Sarmac Gold
Saundary Gold
Scottish Ontario

Schreiber Pyramid
Shakespeare Gold
Shenango Gold
Soocana Gold
St. Anthony Gold
St. Anthony Reef
Stanley Gold
Star of the East
Straw Lake Beach

Sultana Gold
Sunbeam Gold
Swastika Gold

Tashota Goldfields
Telluride Gold
Tionaga Gold
Tommy Burns
Tyranite Gold
Uchi Gold

United Mineral Lands
Upper Seine Gold

Vimy Gold

West Dome
White Rock Gold

Yama Gold Mines

TOTAL .... 157 Mines

SCHEDULE NO. 3

LIST OF SILVER MINING COMPANIES IN ONTARIO

Which reached Production Stage but showed no Taxable Profit from Operations to End of 1944.
From records of The Ontario Department of Mines

Adanac Silver
Agaunico Cobalt

Bellellen Mines
Bonsall Mines
Boyd Gordon

Canadian Lorrain
Cane Silver
Cart Lake Cobalt
City of Cobalt
Cobalt Townsite
Cochrane Mines
Colonial
Crews McFarlan Mines

Everett Mines

General Silver
Genesee Mining
Gould Consolidated
Green Meehan

Hanson Consolidated

Imperial Cobalt
Islet Exploration

King Edward

Lawson Mine
Little Nipissing
Lucky Godfrey
Lumsden Mining

Mann Silver
Millerett Silver
Mother Lode

Nancy Helen
National Mines
Nipissing Extension
Nova Scotia

Peterson Lake
Pioneer Prospectors Consol.
Pittsburgh Lorrain

Red Rock
Reeve Dobie
Regent Mines
Reliance
Right of Way
Rochester
Ruby Silver

Silver Bar
Silver Eagle
Silver Leaf

Tonopah Canadian

University Mine

Victory Silver
Violet Mining

White Reserve
Wigwam Mining

York Ontario

TOTAL—53 MINES

SCHEDULE NO. 4

ONTARIO METAL MINING COMPANIES CONSIDERED ECONOMICALLY SUCCESSFUL TO END 1941

Gold Mines	Capital Issued Shares	Par Value	Dividends and Bonuses Paid to end of 1941	Working Capital, end of 1941
	$	$	$	$
Buffalo Ankerite	701,679	1	2,552,505	265,901
Central Patricia	2,500,000	1	2,650,000	895,634
Dome Mines	2,000,000	No Par	49,197,866	7,738,089
Hallnor Mines	2,000,000	1	3,600,000	1,796,365
Hollinger Consolidated	4,920,000	5	109,890,400	2,771,062
Kerr Addison	4,730,301	1	2,365,150	1,306,184
Lake Shore Mines	2,000,000	1	87,620,000	3,696,102
Little Long Lac	1,841,000	No Par	3,305,000	660,494
Macassa Mines	2,678,068	1	4,879,974	458,883
McIntyre Porcupine Mines	798,000	5	27,160,388	19,577,293
McKenzie Red Lake	2,935,000	1	1,921,350	549,665
Moneta Porcupine	2,543,860	1	941,228	1,349,477
Northern Empire	400,000	1	1,292,000	*600,000
Pamour Porcupine	5,000,000	No Par	2,400,000	1,774,334
Pickle Crow Gold	3,000,000	1	6,450,000	859,897
Preston East Dome	3,000,000	1	1,500,000	299,979
Sylvenite Gold Mines	3,299,500	1	7,060,930	485,950
Teck Hughes	4,807,144	1	36,123,794	2,898,544
Toburn Gold Mines	1,850,000	1	1,868,500	853,502
20 Wright Hargreaves	5,500,000	No Par	36,657,500	4,486,453
Silver Mines				
Buffalo Mines	500,000	0·50	2,787,000	
Casey Cobalt Silver	100,000	1	203,249	
Coniagas Mines	800,000	5	12,680,000	
Crown Reserve	1,999,957	1	6,190,849	
*Temiskaming and Hudson Bay	7,761	1	2,683,159	
Keeley Silver Mines	2,000,000	1	2,240,000	
Kerr Lake Mining	40,000	100	10,521,000	
La Rose Mines	1,500,000	1	6,600,547	
McKinley Darragh	2,247,692	1	5,955,392	
Mining Corporation	8,300,250	5	7,573,938	
Cobalt Townsite	45,011	1	1,042,260	
Nipissing Mining	250,000	100	33,407,297	
Seneca Superior	478,884	1	1,579,817	
Trethewey Silver Cobalt	1,000,000	1	1,211,999	
Temiskaming Mining	2,500,000	1	2,159,156	
17 Miller Lake O'Brien, O'Brien Mines — Controlled by M. J. O'Brien Limited.				
Nickel Mines				
International Nickel	14,584,025	No Par		
	27,627,825	Preferred	351,007,772	
Falconbridge Nickel	3,337,507	No Par	7,635,334	
Canadian Copper Company			1,975,000	
4 Mond Nickel Company	?	?	?	

41 Companies—(20 Gold Mines—17 Silver Mines—4 Nickel Mines)
=0·926% of Total Metal Mining Companies Incorporated or licensed in Ontario, 1904-1941, inclusive.

* Name changed to Hudson Bay Mines in 1909.

Schedule No. 5

64255—5

ONTARIO METAL MINING COMPANIES CONSIDERED ECONOMICALLY SUCCESSFUL TO END 1941

	Gold Mines	Capital Issued Shares	Par Value	Dividends and Bonuses Paid to end of 1941	Working Capital, end of 1941
		$	$	$	$
	Aunor Gold Mines	2,000,000	1	1,400,000	1,158,655
	Buffalo Ankerite	701,679	1	2,763,009	774,995
	Central Patricia	2,500,000	1	1,698,743	1,430,092
	Coniaurum	2,766,743	No Par	3,006,412	889,010
	Dome Mines	2,000,000	1	58,347,209	9,924,680
	Hallnor Mines	2,000,000	1	5,500,000	2,697,823
	Hollinger Consolidated	4,920,000	5	118,549,600	6,795,839
	Kerr-Addison	4,731,301	1	7,095,450	3,623,554
	Kirkland Lake Gold	5,326,699	1	4,146,892	652,108
	Lake Shore	2,000,000	1	93,220,000	4,546,841 (1)
	Leitch Gold	2,905,005	1	1,454,602	783,016
	Little Long Lac	1,841,000	No Par	3,811,275	889,713
	Macassa	2,678,068	1	6,608,182	473,471
	MacLeod Cockshutt	2,862,490	1	1,571,369	1,151,588
	Madsen Red Lake	3,499,528	1	1,013,664	1,319,846
	McIntyre Porcupine	798,000	5	36,018,188	21,109,301 (2)
	McKenzie Red Lake	2,935,000	1	2,802,050	502,353
	Moneta Porcupine	2,543,860	1	1,500,877	1,380,505 (3)
	Northern Empire	40,0000	1	1,572,000	511,306
	Pamour Porcupine	5,000,000	No Par	3,300,000	3,127,658
	Pickle Crow Gold	3,000,000	1	7,950,000	954,955
	Preston East Dome	3,000,000	1	3,300,000	853,797
	Sylvanite Gold	3,299,500	1	8,347,735	1,046,540
	Teck-Hughes	4,807,144	1	39,969,509	3,219,654
	Toburn Gold	1,850,000	1	2,257,000	738,371
	Upper Canada	2,963,009	1	1,422,247	169,603
27	Wright Hargreaves	5,500,000	No Par	42,402,500	5,278,046 (4)
	Silver Mines				
	Buffalo Mines	500,000	0·5	2,787,000	
	Casey Cobalt Silver	100,000	1	203,249	
	Coniagas	717,825	5	12,846,311	
	Crown Reserve Mining	1,999,957	1	6,190,849	
	Temiskaming & Hudson Bay	7,761	1	2,683,159	
	Keeley Silver	2,000,000	1	2,240,000	
	Kerr Lake Mining	40,000	100	11,481,000	
	La Rose Mines	1,500,000	1	6,600,547	
	McKinley Darragh	2,247,692	1	5,955,392	
	Mining Corporation	1,754,006	5	7,573,938	
	Cobalt Townsite	45,011	1	1,042,260	
	Nipissing Mining	250,000	100	33,527,297	
	Seneca Superior	478,884	1	1,579,817	
	Tretheway Silver Cobalt	1,000,000	1	1,211,999	
	Temiskaming Mining	2,500,000	1	2,159,156	
	Miller Lake O'Brien	Controlled by M. J. O'Brien Limited			
17	O'Brien Mines	" " " " "			
	Nickel Mines				
	International Nickel	14,584,025	No Par		
	International Nickel	27,627,825	Preferred	440,422,215	
	Falconbridge Nickel	3,337,507	No Par	9,137,234	
	Canadian Copper Company			1,975,000	
4	Mond Nickel	?	?	?	

48 Companies—(27 Gold Mines—17 Silver Mines—4 Nickel Mines)
=0·968% of Total (4,956) Metal Mining Companies Incorporated or Licensed in Ontario 1904–1944, inclusive.

(1) June 30, 1944 (2) March 31, 1945 (3) March 31, 1945 (4) August 31, 1944

Schedule No. 5

PRODUCTION VALUE ONTARIO METAL MINES WITH GOLD PROPORTION—1907-1944, INCLUSIVE

(In Canadian Funds)

Year	Total Value $ Canadian Funds	Gold Value $ Canadian Funds
1907	14,550,835	66,399
1908	16,754,986	60,337
1909	22,928,496	32,445
1910	28,161,678	68,282
1911	29,102,867	46,752
1912	34,799,734	1,818,387
1913	37,507,935	4,579,077
1914	33,345,291	5,574,679
1915	44,109,769	8,447,698
1916	55,002,918	10,392,998
1917	56,831,857	8,757,758
1918	66,178,059	8,567,051
1919	41,590,759	10,533,929
1920	49,657,828	13,140,825
1921	30,137,217	16,052,185
1922	40,498,778	20,856,905
1923	44,356,856	20,446,441
1924	52,327,064	25,926,403
1925	62,492,634	30,239,419
1926	59,217,702	31,005,966
1927	62,631,255	33,733,087
1928	71,269,814	32,658,824
1929	84,124,902	33,639,187
1930	83,393,068	35,572,424
1931	74,378,765	44,636,584
1932	70,131,174	53,066,616
1933	95,364,365	60,123,838
1934	129,273,033	70,931,051
1935	142,888,565	75,918,674
1936	165,231,519	80,949,317
1937	204,843,193	88,094,219
1938	197,905,460	99,347,297
1939	209,531,338	109,595,837
1940	234,209,927	125,579,597
1941	239,411,730	122,844,360
1942	227,406,027	106,413,978
1943	204,804,370	81,512,777
1944	182,998,773	65,621,595
Total	3,499,350,541	1,536,853,198

Schedule No. 6

PROFITABLY PRODUCTIVE GOLD MINING COMPANIES IN ONTARIO

Showing number of years Ontario Mine Profits Tax paid to end of 1942 and computed total tax-paying life indicated by latest published or assumed ore reserves at end of last fiscal year.

Dated: February 1, 1946

Company	Ore Reserves Tons	1944 Production Rate	Actual Taxable Profit Life Years	Probable Taxable Profit Life from Ore Reserves Years	Total Estimated Tax-paying Life
Aunor Gold	568,750	137,321	5·00	4·14	9·14
Berens River	112,500	40,436	4·00	2·78	6·78
Bidgood Kirkland	Estimated (1)	48,594	2·00	1·00	3·00
Boneful Gold	Estimated (1)	26,083	....	1·00	1·00
Broulan Porcupine (5)	345,000	100,481	5·00	3·45	8·45
Buffalo Ankerite	293,170	235,442	10·00	1·25	11·25
Central Patricia (5)	441,912	91,512	10·00	4·83	14·83
Chesterville Larder	457,800	152,696	2·00	3·00	5·00
Cochenour Willans	Estimated (1)	44,928	5·00	3·00	8·00
Coniaurum	Estimated (1)	98,540	9·00	3·00	12·00
Delnite	Estimated (1)	93,112	6·00	3·00	9·00
Dome	2,353,000	519,800	30·00	4·53	34·53
Hallnor	550,372	102,742	7·00	5·36	12·36
Hard Rock (3)	205,000	91,047	6·00	2·25	8·25
Hasaga (5)	282,726	142,105	5·00	2·00	7·00
Hollinger (4)	7,507,976	1,032,991	33·00	7·27	40·27
Kerr Addison	8,300,918	484,583	7·00	17·13	24·13
Kirkland Lake Gold	352,968	77,457	14·00	4·56	18·56
Lake Shore	Estimated (1)	261,583	27·00	5·00	32·00
Leitch	186,226	21,727	8·00	8·58	16·58
Little Long Lac	499,449	67,538	10·00	7·40	17·40
Mocassa	430,000	83,392	11·00	5·16	16·16
MacLeod Cockshutt	586,652	124,355	7·00	4·73	11·73
Madsen Red Lake	628,545	127,870	6·00	4·91	10·91
Matachewan Consolidated	914,895	179,586	5·00	5·09	10·09
McIntyre	4,444,117	572,620	31·00	7·76	38·76
McKenzie Red Lake	Estimated (1)	78,279	10·00	4·00	14·00
Omega	308,000	115,573	3·00	2·66	5·66
Pamour Porcupine	1,317,000	470,532	8·00	2·80	10·80
Paymaster Consolidated	575,419	126,415	6·00	4·55	10·55
Pickle Crow	651,865	63,388	10·00	10·28	20·28
Preston East Dome (5)	652,627	249,268	6·00	2·62	8·62
Ross	648,010	77,544	7·00	8·36	15·36
		Forward..	315·00	157·45	472·45

(1) Probable life based on assumed ore reserves.
(2) Positive ore only.
(3) Reserves estimated after sorting.
(4) No ore included in reserves grading below \$4·00 at \$20·67 gold.
(5) Reserves estimated before sorting.

PROFITABLY PRODUCTIVE GOLD MINING COMPANIES IN ONTARIO

Showing number of years Ontario Mine Profits Tax paid to end of 1942 and computed total tax-paying life indicated by latest published or assumed ore reserves at end of last fiscal year.

Dated: February 1, 1946

Company	* Ore Reserves Tons	1944 Production Rate	Actual Taxable Profit Life Years	Probable Taxable Profit Life from Ore Reserves Years	Total Estimated Tax-paying Life
		Forward..	315·00	157·45	472·45
Sylvanite	Estimated (1)	137,822	16·00	3·00	19·00
Teck Hughes (2)	285,478	102,920	25·00	2·77	27·77
Toburn	77,600	39,940	13·00	1·92	14·92
Upper Canada	Estimated (1)	80,731	6·00	4·00	10·00
Wright Hargreaves	990,739	159,710	26·00	6·19	32·19
Young Davidson	Estimated (1)	161,773	9·00	6·00	15·00
Acme Gold			1·00		1·00
Anglo Huronian			2·00		2·00
Bankfield Consol			2·00		2·00
Cline Lake			1·00		1·00
Duport Gold			1·00		1·00
Deep Lake			1·00		1·00
Howey			6·00		6·00
Minto			3·00		3·00
Northern Empire			6·00		6·00
Parkhill			3·00		3·00
Porcupine Crown			5·00		5·00
Porcupine Vipond			1·00		1·00
Red Lake Gold Shore			1·00		1·00
Sachigo River			3·00		3·00
Tough Oakes			2·00		2·00
Vipond Consolidated			7·00		7·00
Ashley			1·00		1·00
McMormac			1·00		1·00
Faymar			1·30		1·30
Golden Gate			1·00		1·00
Jason			3·00		3·00
Jerome			2·33		2·33
Magnet Consolidated			5·00		5·00
Moneta			5·00		5·00
Naybob			1·00		1·00
Sand River			1·00		1·00
Sturgeon River			5·00		5·00
Tombill			5·00		5·00
Wendigo			4·00		4·00
Totals			490·63	181·33	671·96

Number of gold mines which have paid Ontario Mines Profits Tax	67
Total number gold mines for which tax-paying life computed	68
Computed average number years taxable-profit life	9·88
Silver mining companies largely exhausted end of 1941	45
Computed average number years taxable-profit life	6·20
Total metal mining companies	113
Computed average taxable-profit life	8·42

Schedule No. 10

LIST OF PROFITABLY PRODUCTIVE SILVER-COBALT MINING COMPANIES IN ONTARIO SHOWING NUMBER OF YEARS THEY HAVE PAID MINES PROFITS TAX TO END OF 1944

DATED: DECEMBER 1, 1944

Company	Number Years Mining (Profits) Tax Paid	Company	Number Years Mining (Profits) Tax Paid
Alladin Cobalt Mines	2	Forward	97
Bailey Cobalt Mines	1	Hargreave Silver Mine	1
Beaver Consolidated Mines	9	Hudson Bay Mines	9
Buffalo Mines	12	Keeley Silver Mines	9
Casey Cobalt Mines	5	Kerr Lake Mining	15
Casey Harris Mining	1	La Rose Mines	13
Casey Kismet Mining	1	Lorrain Trout Lake Mine	2
Castle-Trethewey Mines	4	McKinley Darragh Savage Mines	13
Central Operating Company	1	Menago Mining	2
Chambers Ferland Mining	3	Miller Lake O'Brien Mine	16
Cobalt Comet Mines	4	Mining Corporation	13
Cobalt Lake Mining	3	Nipissing Mining	31
Cobalt Products Limited	1	O'Brien Mine	17
Cobalt Properties Limited	4	Penn Canadian Silver Mines	5
Cobalt Provincial Mines	2	Senneca Superior Silver Mines	4
Cobalt Silver Queen	4	Standard Cobalt Mines	1
Coniagas Mines	18	Temiskaming Mining Company	11
Crown Reserve Mining	12	Trethewey Silver Cobalt Mines	10
Drummond Mines	4	Waldman Silver Mines	1
Foster Cobalt Mining	1	Watts Mines	1
Frontier Lorrain Mines	2	Wettlaufer Lorrain Mines	4
Lorrain Operating Company	2	Wyandoh Silver Mines	3
General Examining & Development	1	R. M. P. Syndicate	1
Forward	97	Total	279

Number of Silver Mines which have paid Ontario Mines (Profits) Tax=45

Average Number Years Profitably Productive Life=$\frac{279}{45}=6\cdot20$

Schedule No. 11

TABULATION OF OPERATIONS ONTARIO GOLD MINING INDUSTRY DURING THE PERIOD 1907-1941
PROCESS SUPPLIES, FUEL AND ELECTRICITY, PRINCIPAL TAXES PAID, DIVIDENDS PAID, TONS
TOTAL TAXES AND TOTAL TAXES % OF DIVIDENDS (COMPILED FROM ONTARIO DEPARTMENT OF

Year	Number of Wage Earners	Wages Paid	Average Annual Wage	Number of Salaried Employees	Salaries Paid	Average Annual Salary	Total Salaries and Wages	Process Supplies Purchased
		$	$		$	$	$	$
1907	138	115,207	835	....	....	....	115,207	....
1908	87	63,323	728	....	....	....	63,323	....
1909	53	38,065	718	....	....	....	38,065	....
1910	304	246,259	810	Data	Data	....	246,259	....
1911	560	425,343	759	Not	Not	....	425,343	....
1912	955	10,23,097	1,071	Available	Available	....	1,023,097	....
1913	1,520	1,603,112	1,055	1907	1907	....	1,603,112	....
1914	1,552	1,855,729	1,196	to	to	....	1,855,729	....
x1915	2,410	2,202,771	914	1920	1920	....	2,202,771	....
1916	2,600	3,067,225	1,180	Inclusive	Inclusive	....	3,067,225	....
1917	2,561	3,220,097	1,257	....	....	....	3,220,097	Estimated
1918	2,128	2,647,156	1,244	....	....	....	2,747,156	For Years
1919	2,188	3,050,222	1,394	....	....	....	3,050,222	1907
1920	2,040	3,351,289	1,643	....	....	....	3,351,289	to
1921	3,023	4,421,843	1,463	22	61,318	2,787	4,483,161	1934
1922	3,919	5,285,521	1,349	223	682,254	3,059	5,967,775	Inclusive
1923	4,241	6,236,297	1,470	270	694,533	2,572	6,930,830	at
1924	4,840	7,382,354	1,525	279	815,665	2,924	8,198,019	8%
1925	5,316	8,742,943	1,645	298	956,889	3,211	9,699,832	of
1926	5,778	8,891,068	1,539	333	1,085,790	3,261	9,976,858	Production
1927	5,963	9,520,937	1,597	346	1,105,073	3,194	10,626,010	Value
xxx1928	6,356	9,927,662	1,562	334	1,100,805	3,296	11,028,467	....
1929	6,437	10,424,531	1,619	305	1,069,426	3,506	11,493,957	....
1930	7,132	10,750,856	1,507	343	1,221,814	3,562	11,972,670	....
1931	7,886	12,762,008	1,618	399	1,354,076	3,394	14,116,084	....
1932	8,460	13,509,649	1,597	446	1,459,560	3,273	14,969,209	....
1933	8,371	13,842,095	1,654	418	1,437,942	3,440	15,280,037	....
xx1934	10,178	15,918,720	1,564	605	1,699,693	2,809	17,618,413	46,478,044
1935	11,115	17,813,502	1,603	761	2,144,583	2,818	19,958,085	6,937,600
1936	13,407	21,476,934	1,602	859	2,361,985	2,750	23,838,919	8,455,830
1937	14,783	24,939,665	1,687	948	2,718,483	2,868	27,658,148	9,210,354
1938	16,478	27,958,799	1,697	1,182	3,232,293	2,735	31,191,092	11,424,208
1939	18,241	31,641,437	1,735	1,302	3,608,571	2,772	35,250,008	11,688,726
1940	18,611	32,670,051	1,755	1,338	3,923,286	2,932	36,593,337	13,531,043
1941	19,362	35,956,340	1,857	1,341	4,330,485	3,026	40,286,825	13,847,768
Totals	218,993	352,982,107	Av. 1,612	12,442	37,064,524	Av. 2,979	390,046,631	122,573,573
1942	*15,561*	*30,893,523*	*1,985*	*1,267*	*3,962,333*	*3,127*	*34,855,856*	*11,122,630*
1943	*11,249*	*22,891,615*	*2,035*	*1,081*	*3,834,762*	*3,547*	*26,726,377*	*8,005,040*
1944	*10,073*	*20,700,015*	*2,055*	*1,046*	*3,752,189*	*3,587*	*24,452,205*	*7,343,078*
Totals	*255,876*	*427,467,260*	*Av. 1,670*	*15,836*	*48,613,808*	*Av. 3,070*	*476,081,068*	*149,044,321*

x—Workmen's Compensation Act passed. xx—Price of Gold increased to $35 an ounce United States Funds.

NOTE—Total Gold Production Value included Exchange Premium.

INCLUSIVE SHOWING NUMBER EMPLOYEES, WAGES AND SALARIES PAID, EXPENDITURES FOR OF ORE MILLED, RECOVERY PER TON, TOTAL PRODUCTION, ESTIMATED TAXES ON DIVIDENDS, MINES AND COMPANY RECORDS)

Cost of Fuel and Electricity	Principal Taxes Paid	Dividends Paid	Tons Milled	Recovery per Ton	Total Production Value	Estimated Tax on Dividends	Total Taxes	Total Tax % of Dividends
$	$	$		$	$	$	$	
....	....	....	13,107	5·07	66,399	....	....	....
....	....	....	9,719	6·20	60,337	....	....	....
....	....	....	6,500	4·99	32,445	....	....	....
Data	....	....	5,454	12·51	68,282	....	....	....
Not	....	....	4,052	11·54	46,752	....	....	....
Available	13,192	270,000	156,122	11·64	1,818,387	....	13,192	....
1907	59,806	1,170,000	365,196	12·54	4,579,077	....	59,806	....
to	59,740	1,410,000	604,390	9·22	5,574,679	....	59,740	....
1921	229,186	2,344,875	929,472	9·08	8,447,698	....	229,186	....
Inclusive	259,590	4,591,750	1,393,751	7·45	10,392,998	....	259,590	....
....	145,333	1,699,542	1,230,321	7·11	8,757,758	13,951	159,184	9·4
....	215,761	1,873,042	875,593	9·78	8,567,051	15,265	231,026	12·3
....	362,593	2,186,028	1,134,271	9·28	10,533,929	17,816	380,409	17·4
....	595,996	3,526,928	1,258,233	10·44	13,140,825	26,544	622,540	19·1
128,148	825,892	4,340,990	1,717,309	9·34	16,052,185	35,379	861,271	19·8
210,710	877,419	4,951,542	2,268,736	9·19	20,856,905	40,355	917,774	18·5
1,248,577	837,936	5,542,793	2,254,465	9·06	20,446,441	45,174	883,110	15·1
1,219,122	1,073,367	6,465,043	2,868,073	9·03	25,926,403	52,690	1,126,057	17·4
1,455,648	1,254,156	8,233,468	3,398,842	8·89	30,239,419	67,103	1,321,259	16·5
1,664,039	1,205,481	10,878,732	3,696,482	8·38	31,005,966	88,662	1,294,143	11·9
1,917,851	1,255,131	11,804,239	2,286,553	7·86	33,733,087	96,204	1,351,335	11·4
2,157,838	1,144,919	12,848,620	4,224,154	7·73	32,658,824	104,716	1,249,635	9·8
2,204,407	1,069,289	10,015,620	3,964,774	8·48	33,639,187	81,627	1,150,916	11·4
2,197,608	1,479,856	11,133,610	3,945,224	9·01	35,572,424	90,739	1,570,595	14·1
2,425,082	2,955,373	14,068,957	5,025,724	8·88	44,636,584	114,662	3,070,035	21·8
2,705,404	3,074,620	16,019,519	5,497,076	9·65	53,066,616	150,184	3,224,803	20·1
2,732,030	3,402,158	17,999,212	5,621,406	10·69	60,123,838	507,577	3,909,735	21·7
3,170,698	8,330,162	26,340,922	6,413,010	11·06	70,931,051	1,155,839	9,486,001	36·01
3,409,271	9,082,738	25,268,238	7,033,874	10·79	75,918,674	1,019,826	10,102,564	39·9
3,822,738	6,599,083	29,704,933	7,747,367	10·44	80,949,317	1,291,572	7,890,655	26·5
4,168,550	6,723,885	35,982,147	8,426,898	10·45	88,094,219	1,600,486	8,324,371	23·1
4,497,982	7,479,590	32,171,930	9,583,590	10·36	99,347,297	1,535,244	9,014,834	28·02
5,064,981	10,212,630	34,750,891	10,723,129	10·22	109,595,837	1,762,566	11,975,196	34·5
5,237,899	14,687,775	34,179,598	11,768,273	10·41	122,618,046	1,475,192	16,162,967	47·3
5,370,242	14,059,551	35,496,570	12,225,234	9·86	120,623,258	3,158,840	17,218,391	48·5
57,008,925	99,572,208	406,999,729	130,676,374	Av. 9·78	1,278,122,195	14,548,112	114,120,320	
4,814,236	*12,726,751*	*25,940,062*	*11,063,447*	*9·42*	*103,680,812*	*3,213,909*	*15,940,660*	*61·5*
4,108,768	*11,459,651*	*22,542,160*	*8,066,733*	*9·83*	*79,284,243*	*3,043,192*	*14,502,843*	*64·3*
3,838,979	*8,140,880*	*19,303,871*	*6,800,568*	*9·49*	*64,518,955*	*2,606,023*	*10,746,903*	*55·7*
69,770,908	*131,899,490*	(*a*) *473,709,278*	*156,607,122*	*Av. 9·74*	*1,525,606,205*	*23,411,236*	*155,310,726*	

xxx—In 1928 Hollinger paid dividends $1,700,000 in Excess of Net Earnings. a—Adjusted.

NOTE—Freight Charges are not estimated in above as insufficient data available. During the period 1936–1941 inclusive, the Temiskaming and Northern Ontario Railway reports Freight Revenues of $24,195,052 attributable to the Gold Mining Industry in the Porcupine, Kirkland Lake and Larder Lake Areas.

Schedule No. 19


PLATE I
LEGEND
PRE-CAMBRIAN SHIELD
CORDILLERA RANGE
INTERIOR PLAINS
APPALACHIAN RANGE
ARCTIC ARCHIPELAGO AND HUDSON BAY LOWLANDS
PACIFIC OCEAN
ATLANTIC OCEAN
CORDILLERA RANGE
PRE CAMBRIAN SHIELD
INTERIOR PLAINS
APPALACHIAN
HUDSON BAY
GULF OF MEXICO
ARCTIC CIRCLE
TROPIC OF CANCER
ELDORADO
INDIN LAKE
YELLOWKNIFE
EDMONTON
VANCOUVER
KIMBERLEY
TRAIL
FLIN-FLON
SHERRIDON
WEKUSKO L.
GOD'S L.
ISLAND LAKE
BERENS RIV.
SAN ANTONIO
RED LAKE
WOMAN LAKE
LONG LAC
WINNIPEG
STEEP ROCK
MICHIPICOTEN
TIMMINS
MATACHEWAN
KIRKLAND LAKE
COBALT
BEATTIE
NORANDA
VAL D'OR
BELLETERRE
SUDBURY
CALUMET
MONTREAL
HALIFAX
LABRADOR
TORONTO
NEW YORK
PITTSBURG
CHICAGO
ST. LOUIS
SALT LAKE CITY
DENVER
SAN FRANCISCO
DALLAS
NEW ORLEANS
ONTARIO MINING ASSOCIATION
PLATE-I
BRIEF ON
DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA
MAIN PHYSIOGRAPHIC DIVISIONS
OF
NORTH AMERICA
0 250 500 750 1000
SCALE OF MILES

PLATE II.

ONTARIO MINING ASSOCIATION

BRIEF ON

DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA

GRAPHS SHOWING THE RELATION

BETWEEN

THE TIME OF DISCOVERY

OF

68 GOLD MINES IN ONTARIO

WHICH HAVE PAID MINE PROFIT TAXES FROM 1900 TO 1945 INCLUSIVE

AND

THEIR PRODUCTION

IN MILLIONS OF DOLLARS

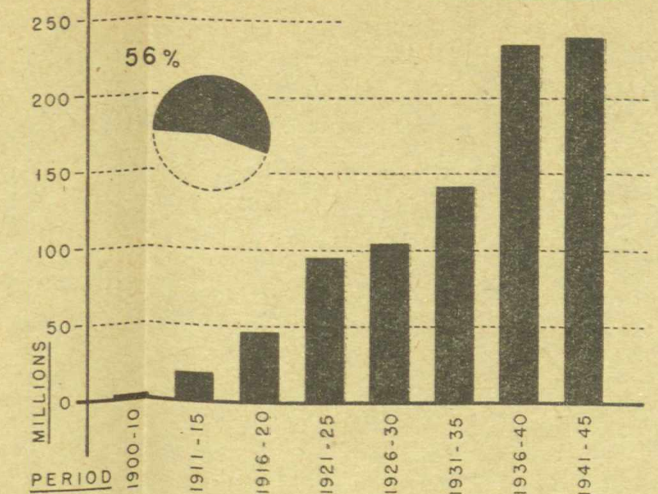
DURING THE SUCCESSIVE PERIODS INDICATED

EACH GRAPH REFERS TO THE MINES (AS A GROUP) DISCOVERED DURING THE PERIOD INDICATED

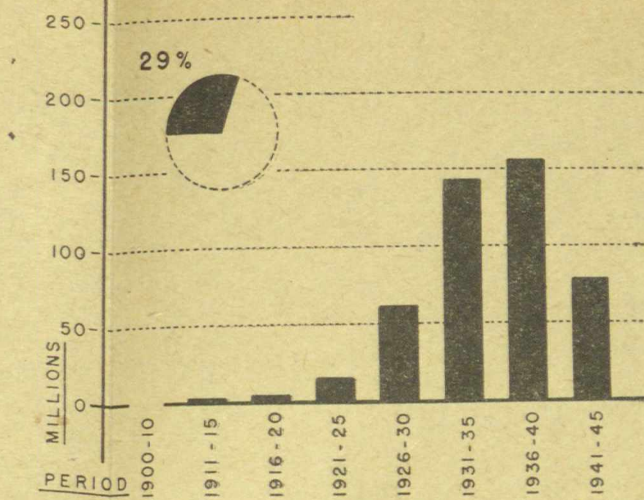
VERTICAL ENTRIES :- TOTAL PRODUCTION OF GOLD FROM ALL THE MINES IN THE GROUP SHOWN FOR THE PERIOD INDICATED

CIRCULAR ENTRIES :- THE 68 MINES HERE DEALT WITH HAVE PRODUCED GOLD TO THE TOTAL VALUE OF 1,577,400,000.00 DOLLARS, IN THE YEARS 1900 TO 1945 INCLUSIVE. THE PERCENTAGE OF THIS TOTAL, ACCOUNTED FOR BY EACH OF THE GROUPS SHOWN, IS INDICATED IN THE CIRCULAR INSERT

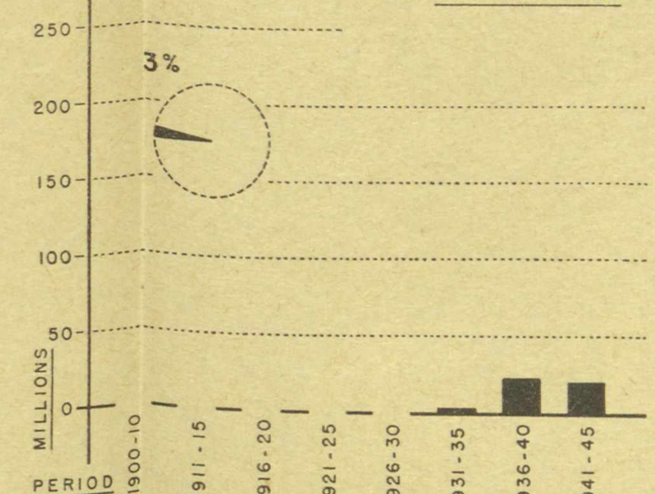
GRAPH 1. GOLD MINES DISCOVERED DURING 1900-1910.



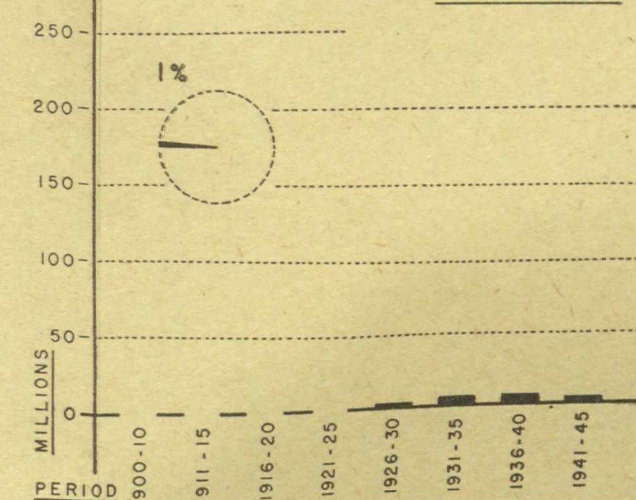
GRAPH 2. GOLD MINES DISCOVERED DURING 1911-1915.



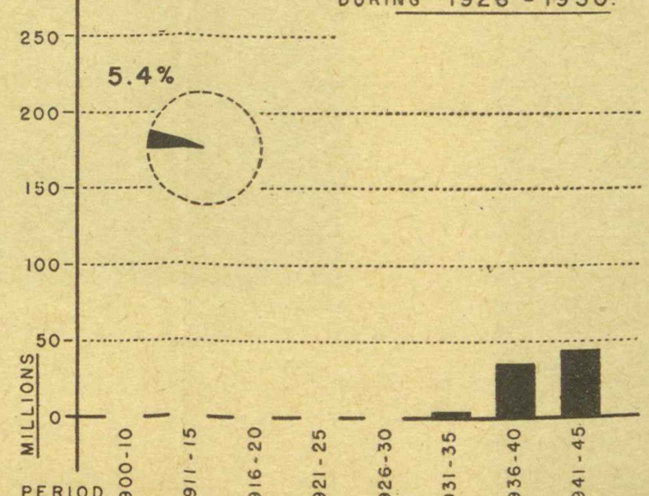
GRAPH 3. GOLD MINES DISCOVERED DURING 1916-1920.



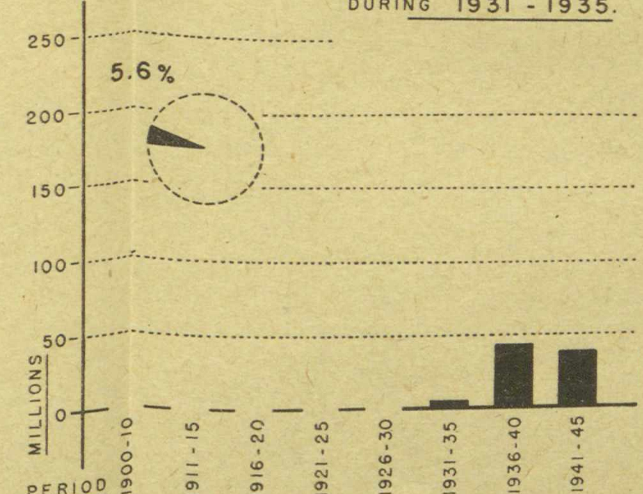
GRAPH 4. GOLD MINES DISCOVERED DURING 1921-1925.



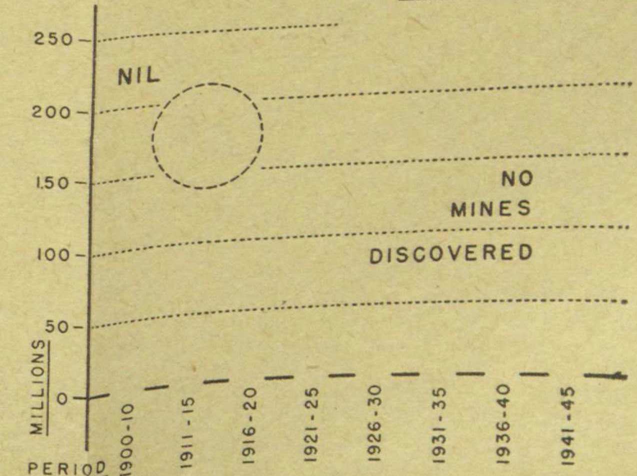
GRAPH 5. GOLD MINES DISCOVERED DURING 1926-1930.



GRAPH 6. GOLD MINES DISCOVERED DURING 1931-1935.



GRAPH 7. GOLD MINES DISCOVERED DURING 1936-1945.



TORONTO, APRIL 1946.

PLATE 3

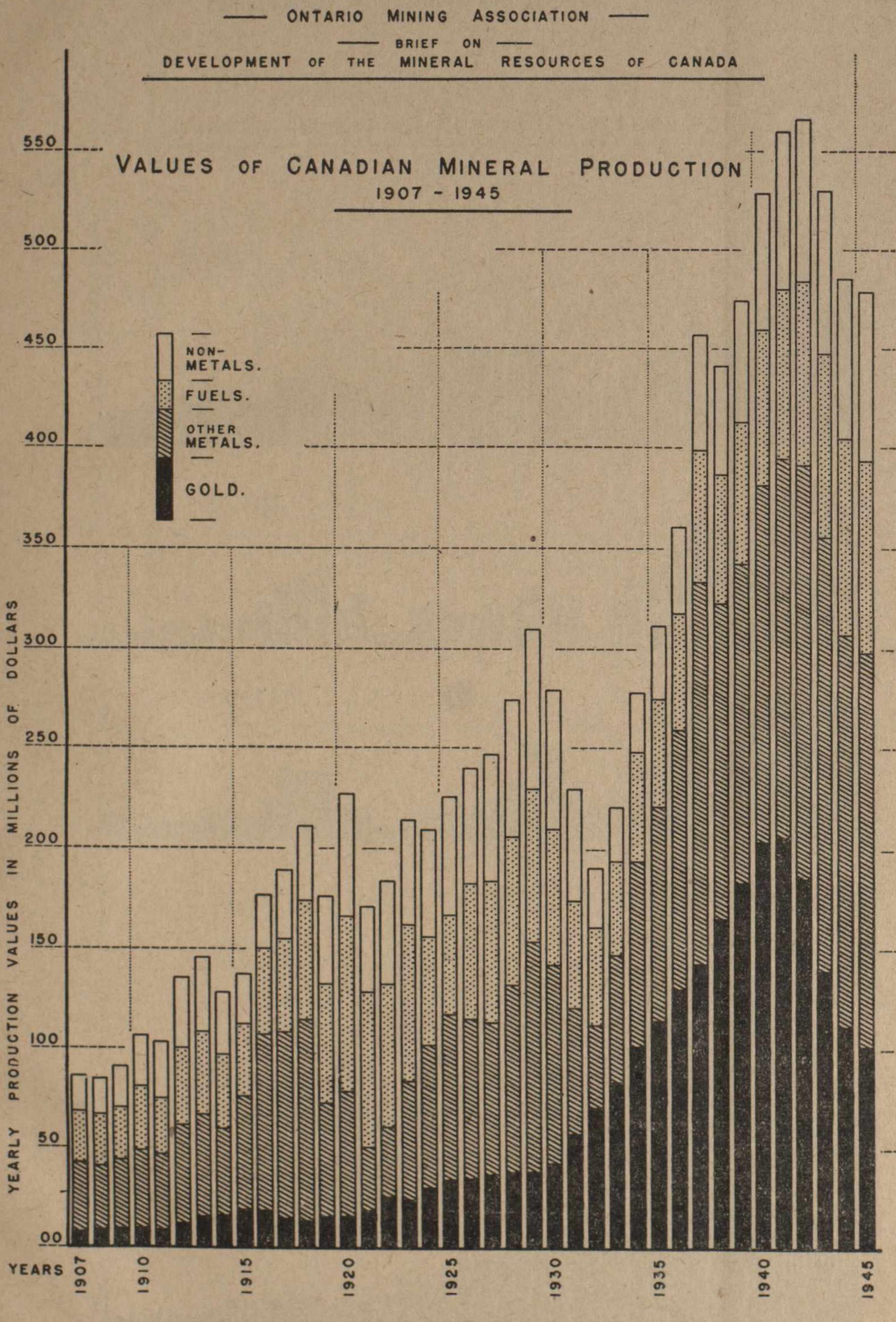

ONTARIO MINING ASSOCIATION
BRIEF ON
DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA
VALUES OF CANADIAN MINERAL PRODUCTION
1907 - 1945
NON-METALS.
FUELS.
OTHER METALS.
GOLD.
YEARLY PRODUCTION VALUES IN MILLIONS OF DOLLARS
550
500
450
400
350
300
250
200
150
100
50
00
YEARS
1907
1910
1915
1920
1925
1930
1935
1940
1945

PLATE 4

— ONTARIO MINING ASSOCIATION —

— BRIEF ON —

DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA

— COMPARATIVE CHARTS —

ANNUAL CANADIAN PRODUCTION OF METALS

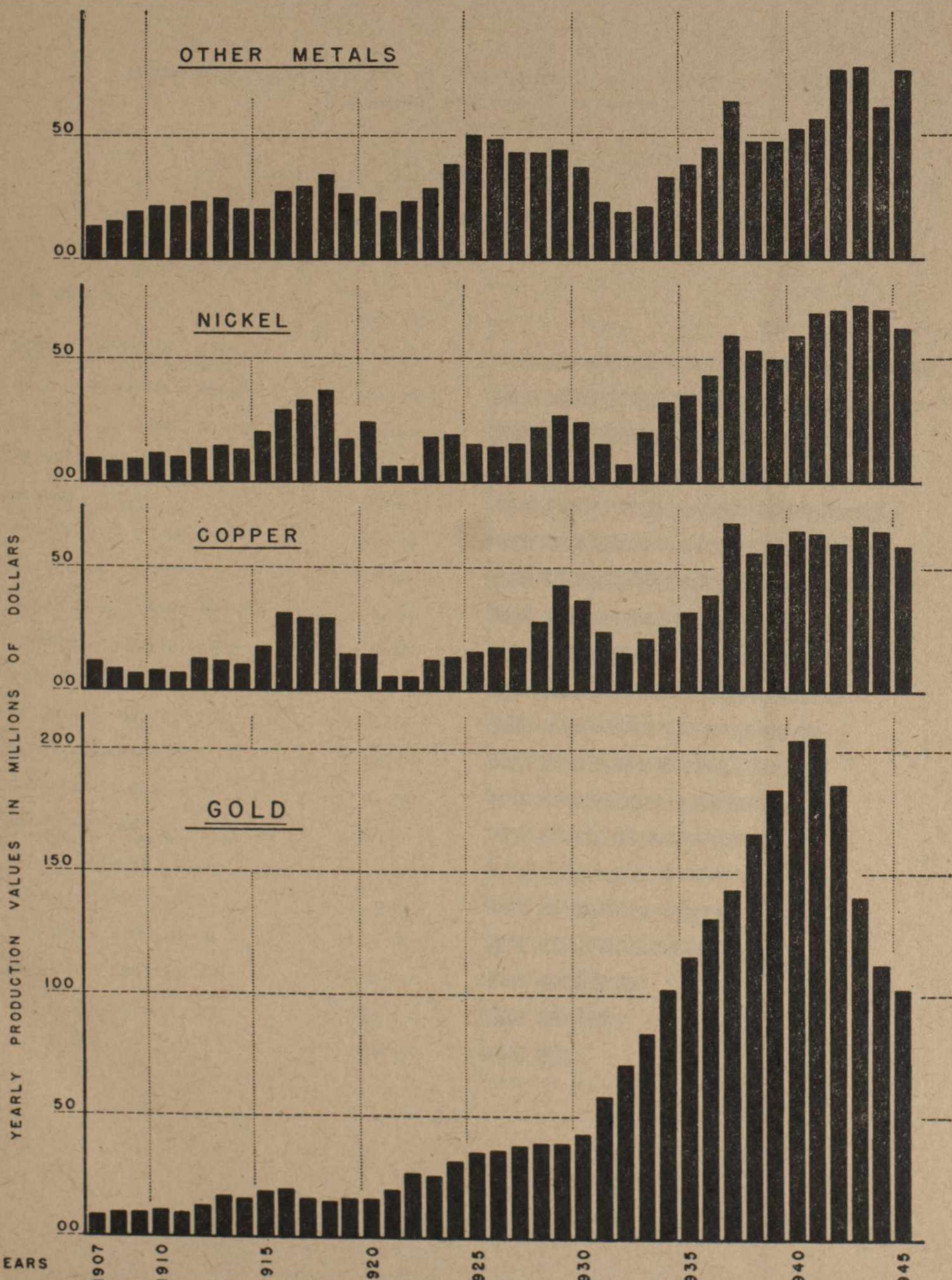


PLATE 7

— ONTARIO MINING ASSOCIATION —

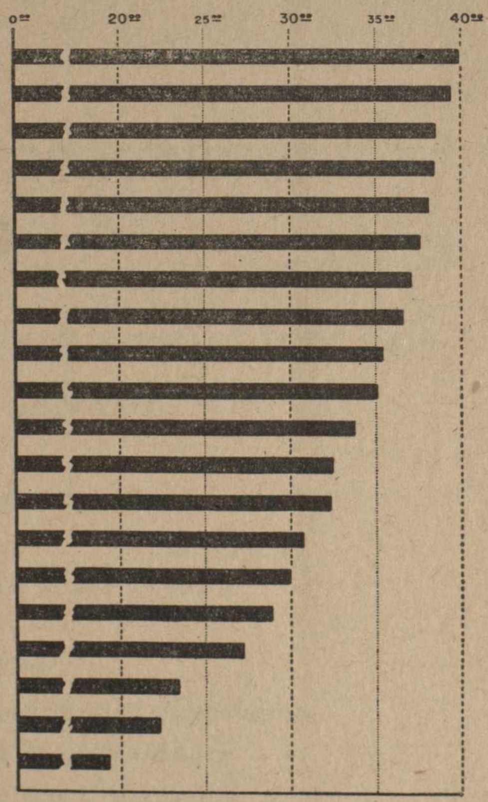
— BRIEF ON —

DEVELOPMENT OF THE MINERAL RESOURCES OF CANADA

COMPARATIVE WEEKLY EARNINGS OF WAGE EARNERS

(SALARIED EMPLOYEES EXCLUDED)

INDUSTRIES	DOLLARS
MINING METALLIC ORES	- 39.86
STEEL SHIPBUILDING & REPAIR	- 39.44
RAILWAY ROLLING STOCK	- 38.50
AEROPLANES AND PARTS	- 38.45
MINING COAL	- 38.07
PETROLEUM & PRODUCTS	- 37.58
PULP AND PAPER	- 37.04
AUTOMOBILES AND PARTS	- 36.55
FOUNDRY & MACHINE SHOPS	- 35.36
EXPLOSIVES & AMMUNITION	- 35.03
BUILDING CONSTRUCTION	- 33.74
HEAVY ELECTRIC. APPARATUS	- 32.43
RUBBER PRODUCTS	- 32.32
MINING NON-METALLIC ORES	- 30.71
FLOUR MILLING ETC.	- 29.97
ANIMAL PRODUCTS	- 28.88
LUMBER PRODUCTS	- 27.18
HIGHWAY CONSTRUCTION	- 23.41
TEXTILE PRODUCTS	- 22.26
SERVICES	- 19.32



1946 SESSION

THE SENATE OF CANADA

PROCEEDINGS

OF THE

STANDING COMMITTEE

ON

NATURAL RESOURCES

ON

THE ECONOMIC VALUE OF METALLIFEROUS MINES IN CANADA

No. 2

TUESDAY, MAY 21, 1946

CONTENTS:

Brief of the Western Quebec Mining Association.
(Map appears at end of proceedings)
Brief of the Toronto Stock Exchange.

OTTAWA
EDMOND CLOUTIER
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

MINUTES OF PROCEEDINGS

TUESDAY, May 21,1946.

Pursuant to adjournment and notice the Standing Committee on Natural Resources met this day at 10.30 a.m.

Present: The Hon. Senators Donnelly, Chairman; Beaubien *(St. Jean Baptiste)*, Burchill, Duffus, Dupuis, Ferland, Horner, Hurtubise, Johnston, Jones, McGeer, McRae, Paterson, Riley, Vaillancourt and White.—16.

In attendance: The official reporters of the Senate.

The Committee resumed consideration of the order of reference of the 2nd May, 1946, instructing the Committee to examine into the economic value of metalliferous mines in Canada.

A brief by the Western Quebec Mining Association was read by Mr. T. E. Little, president of the association.

The following exhibits were filed:—

No. 5. Brief on Taxation—Metal and Asbestos Mining Industries of the province of Quebec 1916-1941. (Not printed).

No. 6. Schedules to accompany Brief on Taxation—Metal and Asbestos Mining Industry, province of Quebec 1916-1941. (Not printed).

No. 7. Supplementary schedules on the Brief on Taxation for the period 1942-1944. (Not printed).

Questions asked by members of the Committee were answered by Mr. J. G. McRae, Mr. H. L. Roscoe, Mr. Alan Scott and Mr. Eugene Larochelle, representatives of the Western Quebec Mining Association.

A brief by the Toronto Stock Exchange was read by Mr. A. J. Trebilcock, Executive Assistant to the President, who also answered questions asked by members of the Committee.

At 1 o'clock, P.M., the Committee adjourned until to-morrow, 22nd May instant, at 10.30 A.M.

Attest

A. H. HINDS,
Chief Clerk of the Committees.

MINUTES OF EVIDENCE

THE SENATE

OTTAWA, Tuesday, May 21, 1946.

The Standing Committee on Natural Resources instructed to examine into the economic value of metalliferous mines in Canada resumed this day at 10.30 a.m.

Hon. Mr. Donnelly in the Chair.

The CHAIRMAN: Gentlemen, we have before us this morning a delegation representing the Western Quebec Mining Association. Mr. Little, the president, has a very informative brief to present to us. It is divided into three parts, and at the end of each part he will be willing to answer questions.

Will you proceed, Mr. Little?

Mr. T. E. Little (President, Western Quebec Mining Association):

Mr. Chairman and gentlemen, this brief is divided roughly into three parts. As you have remarked, Mr. Chairman, after I have finished presenting each section I have remarqued, Mr. Chairman, after I have finished presenting each section I shall be glad to answer any questions or call upon one of our committee to help me out.

To the Chairman and Members,
Committee on Natural Resources,
The Senate,
Ottawa, Canada.

SIRS,—We submit herewith a brief prepared by this Association concerning the metal mining industry of the province of Quebec.

After mature consideration and study, we have reached the conclusion that under favourable conditions the metal mining industry has great capacity to provide employment. After making this study, we find that the outlook for the industry under the existing onerous and complicated system of taxation is uncertain and clouded.

We respectfully submit the following recommendations:

1. That taxes paid annually to the Provincial Government and to municipalities be allowed as a deduction from earnings of all metal mining companies before assessment for Dominion Income and/or Excess Profits Tax purposes.
2. That the Dominion bullion handling charge of 35 cents an ounce be reduced to actual marketing cost to the Government and that the "overage" which has accumulated to the Government over the years be returned to the mining companies.
3. That the subject of depletion be given careful study with a view to the adjustment of the current rates allowed in order to arrive at percentage allowances, both for companies and shareholders, which would be fair and equitable.
4. That, during the first five years of tax-paying life, mining companies be allowed to deduct from earnings, before assessment of taxes, depreciation up to a maximum of 25 per cent in any one year.

The briefs and schedules accompanying this letter are as follows:

1. Brief of the Western Quebec Mining Association concerning the Metal Mining Industry of the Province of Quebec.
2. Brief on Taxation—Metal and Asbestos Mining Industries of the Province of Quebec 1916-1941.
3. Schedules to accompany Brief on Taxation—Metal and Asbestos Mining Industry, Province of Quebec 1916-1941.
4. Supplementary schedules on the Brief on Taxation for the period 1942-1944.

Respectfully submitted,

T. E. LITTLE,
President.

BRIEF OF THE WESTERN QUEBEC MINING ASSOCIATION ON THE METAL MINING INDUSTRY OF THE PROVINCE OF QUEBEC

MINING—CANADA'S SECOND BASIC INDUSTRY

Mining has become an integral part of the Canadian economy and an important stabilizing influence. It is the second largest basic industry in Canada with total value of production of $530,054,000 in 1943, as compared to $1,134,399,000 for agriculture. The metal mining industry has expanded from a production of $112,042,000 in 1932 to $356,813,000 in 1943. (Refer Preliminary Report on the Mineral Production of Canada, 1944—Dominion Bureau of Statistics.)

Therefore its future prosperity is of the utmost importance to every Canadian. In order that metal mining may continue to expand, there is an urgent necessity for a clear understanding of the financial hazards involved and for both the Federal and Provincial Governments to bring their taxation policies in line with the realities of the present day.

The Western Quebec Mining Association represents the base and precious metal mining industry of Quebec. The experience of its members, who are actively engaged in the mining industry, carry some authority which may be helpful to you in your task.

We will hereunder attempt to make a short review of the metal mining situation in the Province of Quebec.

The chief considerations are:

1. Economic Importance of Metal Mining to Quebec.
2. Future of the Mining Industry.
3. Taxation in the Metal Mining Industry.
4. Recommendations.

1. ECONOMIC IMPORTANCE OF METAL MINING TO QUEBEC AND CANADA

(a) *Expansion of the Metal Mining Industry in Quebec*

Table (1) shows that the total value of metals extracted from the mines, during the year 1921, amounted to $170,944.00.

TABLE (1)

PRODUCTION OF METALS IN THE PROVINCE OF QUEBEC, 1921

		Metal Quantity	Value $
Chrome	(tons)	2,789	55,696
Copper	(lbs.)	352,308	44,045
Gold	(ozs.)	635	13,127
Lead	(lbs.)	597,851	34,215
Silver	(ozs.)	38,084	23,861
Total			$170,944

TABLE 2.—PRODUCTION OF MINES OF WESTERN QUEBEC, 1927-1943

Year	Ore treated (tons)	Shipments											
		Copper (pounds)	Gold (ounces)	Silver (ounces)	Zinc (pounds)	Lead (pounds)	Selenium (pounds)	Tellurium (pounds)	Pyrite (tons)	Arsenic (pounds)	Tungsten (pounds)	Molyb-denite (pounds)	Value $
1927....	7,570	463,471	741	2,611	...	...	...	...	...	...	...	...	76,674
1928....	271,614	33,019,311	53,397	185,579	...	...	...	...	...	...	...	...	6,022,692
1929....	498,280	51,101,054	86,162	333,792	...	...	...	...	...	...	...	...	11,210,882
1930....	980,419	75,435,415	141,747	555,578	9,754,160	...	...	...	...	...	...	...	13,286,327
1931....	1,100,121	62,018,221	299,869	509,571	...	...	...	...	...	...	...	...	11,814,97
1932....	1,331,104	60,584,116	401,005	605,258	...	...	...	...	121	...	...	...	13,472,818
1933....	1,886,617	63,417,206	382,834	451,732	...	...	22,131	...	...	...	...	...	15,864,182
1934....	2,436,233	69,057,942	390,061	455,022	...	...	48,764	...	7,312	...	...	...	18,912,070
1935....	2,809,654	74,471,124	469,560	504,985	...	...	206,421	1,708	...	...	...	...	23,056,076
1936....	3,390,412	62,746,930	665,930	556,745	...	...	168,417	19,502	...	...	...	...	29,857,913
1937....	4,189,618	92,040,922	710,638	789,124	5,102,330	...	208,531	26,439	500	...	...	...	37,917,227
1938....	5,380,452	109,130,545	876,628	1,177,414	5,315,852	...	217,952	41,577	7,366	...	...	...	42,853,857
1939....	6,124,976	115,389,836	951,681	1,160,401	28,758,759	...	23,841	2,940	73,628	...	...	...	47,559,599
1940....	6,998,759	134,166,955	1,016,162	1,340,500	27,696,721	...	43,510	...	124,716	...	...	...	54,406,895
1941....	7,534,829	143,783,978	1,084,429	1,656,548	46,389,581	...	203,162	...	298,761	2,056,000	989	...	59,521,841
1942....	7,643,279	140,911,876	1,090,558	1,631,957	72,358,553	...	326,208	...	351,573	6,349,074	2,981	5,000	61,089,246
1943....	6,926,856	131,163,776	926,552	2,111,700	116,382,081	404,295	216,498	...	277,690	2,744,921	5,401	499,828	58,232,127
Total..	59,510,793	1,418,902,678	9,547,954	14,028,517	311,758,037	404,295	1,685,435	92,166	1,141,667	11,149,995	9,371	504,828	505,155,405

NOTES.—From the Mining Industry of the Province of Quebec in 1943—Department of Mines, Quebec.
Values of metal production calculated at prices prevailing during each of the years concerned.

The Western Quebec district did not contribute to the above production. A few prospectors had been through Western Quebec but the area was considered to be too isolated. In 1920, Edmund Horne found a large mineral deposit in Rouyn Township containing copper and gold. This discovery made Western Quebec known throughout the country and the development of the Horne deposit served to spear-head the opening up of the Rouyn-Harricana district.

A new company, later to be known as Noranda Mines, Limited, acquired the Horne claims in 1922, and worked actively on the development of this property. With the starting of operations at the Noranda Smelter, where copper ingots were poured for the first time on December 17, 1927, it may be said that the Province of Quebec entered a new era. In support of this assertion, may we refer you to Table (2).

A glance at Table (2) will show that in a period of 15 years, the metal production of the mines of Western Quebec has steadily increased from a production, in 1927, of 463,500 pounds of copper, 741 ounces of gold and 2,611 ounces of silver, valued at $76,674 to attain its peak in 1942, of 140,900,000 pounds of copper, 1,091,000 ounces of gold, 1,600,000 ounces of silver, 72,360,000 pounds of zinc, 327,000 pounds of selenium, 352,000 tons of pyrite, 6,350,000 pounds of arsenic, 3,000 pounds of tungsten and 5,000 pounds of molybdenum valued at $61,089,000. The Table will also show that from December 12, 1927, to December 31, 1943, the total production of metals by the mines of Western Quebec is valued at over half a billion dollars.

Of the Western Quebec region it can be truly said, as of many other mining regions in Canada, that out of the wilderness of rock and forest and muskeg, out of the courage and foresight of the men of the mining industry, new store of wealth has been opened up for Canada and the province of Quebec.

It is due to the development of the metal mining industry since 1920, that new regions in Abitibi and Temiscamingue have experienced industrial activity which brought prosperity to the hardworking people inhabiting these regions to-day.

(b) *Job-making Capacity*

Metal mining not only gives work to men in the industry but requires the services of most of the other industries in Canada to provide supplies used in the extraction of the ore and the recovery of the metals. This is illustrated on Table (3) which shows that $158,106,744 has been spent on supplies, equipment, fuel and electric power by the mines of Western Quebec.

TABLE (3)

EXPENDITURES MADE BY WESTERN QUEBEC METAL MINES FOR SUPPLIES, PLANT AND EQUIPMENT, FUEL AND ELECTRICITY, 1928-1944. (*a*)

(*Values in dollars—Cents omitted*)

Year	Expenditures for Supplies Plant and Equipment	Cost of Fuel and Electricity	Total
1928	8,570,374	406,866	8,977,240
1929	2,821,823	575,543	3,397,366
1930	2,852,679	1,027,981	3,880,660
1931	2,670,436	1,063,448	3,733,884
1932	3,499,931	1,190,333	4,690,264
1933	4,624,835	1,188,802	5,813,637
1934	5,152,398	1,303,064	6,455,462
1935	6,465,988	1,330,451	7,796,439

(*a*) Compiled from Department of Mines, Province of Quebec, and Company Records.
(*b*) Costs not available for Gold Mines, 1929 to 1936, estimated at $5,000,000.

TABLE 3—*Conc.*

EXPENDITURES MADE BY WESTERN QUEBEC METAL MINES FOR SUPPLIES, PLANT AND EQUIPMENT, FUEL AND ELECTRICITY, 1928-1944 (*a*)

(*Values in dollars—Cens omitted*)

Year	Expenditures for Supplies Plant and Equipment	Cost of Fuel and Electricity	Total
(*b*) 1936	6,641,390	6,281,999	12,923,389
1937	9,890,357	2,740,896	12,631,253
1938	9,556,769	2,977,710	12,534,479
1939	10,900,861	2,991,281	13,892,142
1940	10,058,761	3,151,764	13,210,525
1941	11,134,886	3,365,539	14,500,425
1942	8,973,827	3,464,526	12,438,353
1943	7,563,829	3,412,822	10,976,651
1944	6,955,252	3,299,323	10,254,575
	118,334,396	39,772,348	158,106,744

(*a*) Compiled from Department of Mines. Province of Quebec, and Company Records.
(*b*) Costs not available for Gold Mines, 1929 to 1936, estimated at $5,000,000.

The consumption of electrical energy in the mines of Western Quebec, according to statistics, is as follows:

Year	*HP/Year*
1937	34,300
1938	42,000
1939	47,900
1940	55,900
1941	60,000
1942	59,000
1943	58,000
1944	52,000

The rapid development of the metal mining industry in Western Quebec has resulted in the development of the following water power resources in the Abitibi and Temiscamingue regions:

	Installed HP
Provincial Government	48,000
Northern Quebec Power	40,000
Belleterre Quebec Mines Ltd.	2,800
La Sarre Power Company Ltd.	2,800
	93,600

The mining industry consumes large quantities of supplies, thus giving employment to men in many other industries. The United States Bureau of Mines has estimated that for each man employed in the mining industry, a total of 12½ people are supported by his labour.

The number of men directly employed and the wages paid in the metal mining industry of Quebec has shown a steady rise in the 22 years from 1921 to 1942 inclusive.

Table (4) shows that in 1921, the metal mines of the province gave employment to 109 men who received $126,657 in wages, as compared with 9,716 men employed by the mines in 1942, receiving $16,109,273 in wages. Furthermore, the employees of the metal mines of Quebec have received from 1921 to 1944 inclusive, a total of $161,295,000 in wages. The Table also illustrates the extreme youth of the industry in Quebec. Most of the increase has taken place since 1927. With sufficient encouragement the progressive expansion will continue at a similar or even an accelerated pace.

TABLE (4)

WORKMEN AND WAGES IN THE METAL MINES OF THE PROVINCE OF QUEBEC (1) 1921-1942

Year	Number of Workmen	Wages $	Average Annual Wages $
1921	109	126,657	1,161
1922	68	68,884	1,012
1923	253	282,682	1,117
1924	525	725,976	1,383
1925	562	740,891	1,318
1926	1,102	1,389,198	1,261
1927	1,892	2,729,909	1,443
1928	2,023	2,867,618	1,417
1929	2,081	2,979,336	1,431
1930	2,193	3,155,016	1,439
1931	2,382	2,906,554	1,220
1932	2,951	3,773,716	1,279
1933	3,561	4,622,676	1,298
1934	4,929	5,967,168	1,211
1935	5,796	6,944,602	1,198
1936	7,434	8,983,757	1,208
1937	9,843	12,681,688	1,288
1938	9,170	12,469,930	1,360
1939	8,982	12,511,942	1,393
1940	9,184	13,435,102	1,463
1941	9,623	15,093,613	1,568
1942	9,716	16,109,273	1,658
1943	8,602	15,567,250	1,810
1944	7,913	15,161,791	1,916
TOTAL		$161,295,229	
TOTAL		$161,295,229	

(1) Compiled from Table 13—The Mining Industry of the Province of Quebec, in 1943, Department of Mines, Province of Quebec.

In addition to the wages paid, numerous social benefits have been furnished by a number of the mining companies which we believe have considerably raised the standard of health and living in the various mining communities. These benefits take the form of co-operative pensions and savings plans as well as medical and hospitalization services.

(c) *Colonization*

The construction of the Transcontinental from 1910 to 1914 was the pioneer move in opening up Western Quebec. However, before the mining development in Abitibi, colonization was limited to a tract of land about three or four miles wide on either side of the railroad from the Belle River to the Ontario border. After the importance of the Noranada discovery was recognized, a branch line of 44 miles was built in 1925 between the towns of Rouyn-Noranda and the town of Taschereau of the main line of the Transcontinental. The Nipissing Central Railroad was built between Rouyn-Noranda and Swastika on the North Bay-Cochrane line of the Temiscamingue and Northern Ontario Railroad. In 1939, the Canadian National Railroad opened up a 100 mile line from Rouyn-Noranda to Senneterre through the centre of the mining district.

Modern highways and mine roads have been built due to the vision and aggressiveness shown by the Provincial Government so that the mining towns are connected by highways with both Montreal and Toronto. We extract the following from the General Report of the Minister of Mines of the Province of Quebec for the year ending March 31, 1945.

> During the fiscal year ending March 31, 1945, new mine roads aggregating 23·31 miles in length were constructed, which brought to 1,042·98 miles the total length of mine roads in the Province.
>
> The cost of these works amounted to $149,244.55, bringing to $5,723,551.69 the total cost of mine roads in the province.

Towns such as Noranda, Rouyn, Duparquet, Belleterre, Bousquet, Cadillac, Malartic, Val d'Or, Bourlamaque, Siscoe, Sullivan, Pascalis and Normetal have been established following the development of some thirty metallic mines in the district. The larger companies built houses for their employees as well as theatres, hotels, rinks and community centres. The following figures are taken from the official Federal census to illustrate the rapidity and extent of the increase in population of the mining areas:

Year	County of Abitibi	County of Temiscamingue	Total	Per Cent
1921	14,800	11,764	26,564	100
1931	23,692	20,609	44,301	167
1941	67,689	40,471	108,160	407

During the depression years of the 1930's the Quebec Government moved large numbers of settlers from the older parts of the Province to Western Quebec. These people are now established in the country districts and their farm produce finds a ready market in the mining towns.

We hope that we have demonstrated the part played by the metal mining industry in the opening up of new areas, establishment of new communities as well as the benefits derived by other industries.

The employment situation in the Province of Quebec and the Dominion of Canada requires that increased metal production be not only maintained at its present level but that steps be taken to foster substantial increases in production and new development whenever possible.

2. FUTURE OF THE MINING INDUSTRY

(a) *Metal Mining as a Balance Wheel Against Future Economic Depression*

The role played by the metal mining industry during the economic depression of the 1930's is well known. Metal mining may be called upon to repeat this role should another depression threaten but, in order that it may do this, the industry must be given every encouragement to expand. Mines cannot be found and developed on short notice.

The future of Northern Quebec, and for that matter, Labrador, is dependent upon mining and will require huge sums of venture capital if development is to proceed with dispatch. This kind of capital—large sums—cannot be raised by selling stock at a few cents per share. It must come in large blocks from people who know and understand the hazards involved, and they cannot justify such participation on behalf of their principals unless Government policy is favourable or at least fairly inclined to the mining industry.

Gold mining is in a more favourable operating position during times of depression than during times of prosperity. Gold is sold at a fixed price and when the gold mine operators can purchase supplies and equipment in a buyer's market, operating costs are down and profits are up. A glance at Table number four will show that the greatest increases in employment in the industry took place during the times of depression with a definite drop in the rate of increase during times of comparative prosperity.

(b) *Cost of Gold Production*

Gold is shipped to the Royal Canadian Mint by the gold producers of Canada. The Mint pays the producers in Canadian funds at the rate received from the United States Government plus the exchange premium of 10 per cent. Thus an ounce of gold is worth $38.50 gross in Canadian funds. Due to increased cost of operation, few if any gold mines in Western Quebec could operate at the pre-1933 gold price of $20.67 per ounce.

Actually the majority of the gold mines of Western Quebec are low grade and many would operate at a deficit or at a very narrow margin of profit if the exchange premium were removed. To illustrate this point, Tables No. 5 and No. 6 are appended.

TABLE No. 5.—AVERAGE COST AND EARNINGS PER OUNCE OF GOLD PRODUCED IN WESTERN QUEBEC GOLD MINES UP TO YEAR 1944. (a)

(Values in dollars)

—	Up to 1941	1942	1943	1944	Up to 1944 inc.
Values recovered	36.08	38.50	38.50	38.50	36.83
General	2.87	2.86	3.16	3.48	2.91
Development	4.87	4.54	4.11	4.50	4.70
Mining	8.27	11.68	12.75	14.07	9.64
Milling	4.51	5.01	5.12	5.62	4.73
Sub total	20.52	24.09	25.14	27.67	21.98
Development write off	1.63	1.14	2.45	1.55	1.57
Depreciation	2.50	2.89	3.52	2.70	2.67
Total operating	24.65	28.12	31.11	31.92	26.22
General administration	.64	.83	.76	.92	.81
Total cost of mining operations	25.29	28.95	31.87	32.84	27.03
Profits of the mine	10.79	9.55	6.63	5.66	9.80
Outside operations and extraneous	.24	.12	.10	.01	.19
Non-operating revenue	*.19*	*.19*	*.53*	*.76*	*.27*
Net profits	10.74	9.62	7.06	6.41	9.88
Income taxes and duties	1.99	3.30	2.19	2.63	2.24
Earned surplus	8.75	6.32	4.87	3.78	7.64

(a) Compiled by the Department of Mines, Province of Quebec.

Table (5) shows the average for all gold producers in the Province. It is disturbing to note that the average profit per ounce of gold has dropped from $6.32 in 1942 to $4.87 in 1943 to $3.78 in 1944.

Of the 16 gold mines for which costs and profits are shown, in Table (6), five are showing a loss on each ounce of gold produced varying from a low of 73 cents to a high of $6.15. If the exchange premium were removed, two other operations would show a deficit and the operation having the highest earnings per ounce would be down to a profit of less than eight dollars per ounce.

Taxes that are a direct operating charge will reduce the tons of ore which may be milled because they increase the cost of producing an ounce of gold. Gold bearing rock which must be left in the ground because its gold content is not sufficient to meet the operating cost of the mine does not produce employment.

Taxation in the Metal Mining Industry

(a) *Double Taxation*

Dues paid on mine profits under the Quebec Mining Act are in reality royalties claimed by the Province for the permission to mine metals. The evolution of this tax is shown in full on pages 19 to 26 in the Brief on Taxation 1916-1941. Such dues are an operating charge for Quebec mining companies and should be considered as such. Under the present Federal tax laws, these royalties are not allowed as an operating charge and as a result, Quebec mines are subject to double taxation.

TABLE No. 6.—COST PER OUNCE OF GOLD PRODUCED IN CERTAIN WESTERN QUEBEC GOLD MINES IN 1944 (a)

(Values in Dollars)

Mines	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
Values recovered........	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50
General.................	.38	3.34	3.56	4.73	3.56	3.82	3.90	4.13	2.41	4.36	6.80	2.61	1.32	3.51	3.83	4.50
Development...........	3.92	5.62	4.30	4.84	4.74	6.42	6.51	4.25	3.29	3.10	6.24	2.50	10.22	4.42	4.39	3.57
Mining..................	12.29	11.93	20.47	16.77	17.40	13.10	13.32	8.48	12.36	9.36	16.08	14.56	11.04	16.60	13.14	16.99
Milling..................	3.68	6.38	5.12	4.95	8.54	9.79	5.15	4.05	3.76	3.63	7.31	6.21	4.94	8.10	4.22	3.74
Sub total.......	20.27	27.27	33.45	31.29	34.24	33.13	28.88	20.91	21.82	20.45	36.43	25.88	27.52	32.63	25.58	28.80
Development write-off..	1.01	....	3.78	2.38	3.53	5.83	....	....	1.45	....	4.18	....	....	5.70	....	.87
Depreciation............	3.91	.91	2.56	3.48	2.01	2.82	2.33	2.80	2.48	1.67	2.85	2.90	3.51	3.34	2.79	4.84
Total operating...	25.19	28.18	39.79	37.15	39.78	41.78	31.21	23.71	25.75	22.12	43.46	28.78	31.03	41.67	28.37	34.46
Gen'l Adm., and Taxes, etc....................	4.52	3.07	(c) .24	.61	(c) .55	(c) 2.05	2.23	4.89	4.29	5.06	.84	4.61	2.80	2.98	2.65	2.19
Total cost......	29.71	31.25	39.55	37.76	39.23	39.73	33.44	28.60	30.04	27.18	44.30	33.39	33.83	44.65	31.02	36.65
Earned surplus..........	8.79	7.25	(d) 1.05	.74	(d) .73	(d)1.23	5.06	9.90	8.46	11.32	(d)5.80	5.11	4.67	(d)6.15	7.48	1.85

(a) Compiled from Annual Reports of Companies. (c) means credit. (d) means deficit.

Notwithstanding that representations have been made from time to time to the Dominion Income Tax authorities to have duties paid under the Quebec Mining Act treated as an expense deductible in determining taxable income, no allowance therefore has yet been made. In this connection it would appear that in adopting this stand, such authorities have been governed by the reference in the Quebec Mining Act to "mining profits" and payments made thereunder have been deemed to be a tax on profits.

It is submitted that, as The Quebec Mining Act antedates the Corporation Tax Act and prior to 1923 a royalty on sales was used as the basis of assessment under The Quebec Mining Act, it cannot be properly contended that duties paid thereunder are actually "profits taxes". Furthermore, the operation of a mine could actually result in a loss and still be subject to taxation under The Quebec Mining Act. It would therefore seem erroneous to contend that payments under The Quebec Mining Act are "profits taxes". Duties under The Quebec Mining Act are in the nature of an operating licence or fee, wholly, exclusively and necessarily laid out for the purpose of earning the income which is ultimately taxed under the Income War Tax Act and The Excess Profits Tax Act (Refer Schedule 18—Brief on Taxation Metal and Asbestos Mining Industries, 1916-1941).

(b) *Dominion Bullion Handling Charge*

The handling charge of 35 cents per once of gold, which is made by the Royal Canadian Mint, is in excess of the actual cost of handling and marketing of gold bullion by about 20 cents per ounce. The excess over actual cost is a hidden tax on gold production and is an unnecessary addition to the cost of producing an ounce of gold. If we assume an annual production of 5,000,000 ounces of gold, the total hidden tax amounts to $1,000,000 to Canadian producers of gold. (Refer page 43, Brief on Taxation, and to Schedules 18 and 21, 1916-1941).

The Royal Canadian Mint receives gold bullion from the mines and samples it to determine the amount of the payment due to the mines. The conservative method which is used to assay the bullion results in an "overage"; that is when the clean up is made at the end of the year's operation, it is found that the actual value of the shipments made to the Mint is higher than the amounts of the payments made to the shippers.

Over the years the "overage" has amounted to 2 cents per ounce which means that the Mint has underpaid the Quebec mines by about $200,000.00.

(c) *Profits Taxes and Reduction in the Metal Mines Working Force*

Previous to 1942 the producing metal mines of the province maintained ample development ahead of stoping requirements. With the increased shortage of competent underground labour, development work was reduced to such an extent that most of the mines are now in the position of having to spend large sums of money on this deferred development when labour becomes available. Thus mine profits now include a sum, varying with different mines, which is actually a return of capital already spent on mine development. This condition will continue as long as the mine operates without a labour force adequate enough to maintain development work as well as carry on routine mining operations. Therefore we submit that the high income tax of the war period, while recognized as a necessary measure, has been a real hardship to the comparatively low grade gold mines of Western Quebec and has been in part, a tax on the return of capital.

(d) *Depletion*

Since mining is a one crop proposition and since every mine has a definitely limited life, earnings derived from mining operations must be considered in part as return of capital. The Federal Government has recognized the principle of depletion by authorizing a depletion allowance of 33⅓ per cent to the company and 20 per cent to the shareholder. The division between the company and the shareholder is arbitrary and is not meant to assure the shareholder of a return of his capital but simply to provide that that part of the earnings which is designated as a return of capital is not taxable.

In order to encourage capital in the mining industry, it is fundamental that the income tax structure should be of such a nature as to offer a reasonable prospect of return of capital. It is felt generally that the present depletion allowances are not sufficient to ensure a return of capital to the shareholder. The average tax paying life of precious metal mines in Quebec is less than eight years. (See Brief on Taxation—Schedule 10).

This Association suggests that the subject of depletion be given careful consideration by the Government in order that depletion allowances may be established at rates which will return to the shareholder, who is the owner of the company, a larger proportion of the company earnings in the form of untaxed capital.

(e) *Life Expectancy of Metal Mines and Depreciation*

Metal mining differs from other industries in respect to the risk involved. The percentage of failures among companies formed for the purpose of mine exploration, development and production is greater by far than in any other industry. Of the 1,093 metal mining companies incorporated or licensed in the Province of Quebec from 1907 to 1941, only 9 companies or 0·82 per cent are considered to be economically successful. (Refer Schedule No. 5—1916-1941).

The average tax paying life of gold mines which succeed in reaching the production stage is less than eight years. (Refer Schedule No. 10, 1916-1941). Provided an assessed company made all its capital expenditures in or prior to the first years for which it was taxed, the average life would permit full depreciation being charged. Such a condition never exists. Maximum capital expenditures generally come in the third, fourth or fifth years.

In order to allow for the large percentage of failures which occur in the mining industry and taking into consideration the relatively short tax paying life of the average gold mine, it is our opinion that the present allowable annual depreciation write-off is not large enough to cover the return of capital expenditures made by the industry.

Conclusions

Federal taxes take the largest share of the mine taxes without giving a proportional return to the mining industry. In 1942 the Federal share of the mine taxes was 82 per cent whereas the Province and the municipalities took only 18 per cent of the total. The Dominion Government taxes have shown a steady increase both in amount and percentage of the total tax since 1928. (Refer Schedule No. 24—Brief on Taxation, Metal and Asbestos Mining Industries, 1916-1941).

Unless remedial action within the framework of taxation is planned *now* the mining industry will idle in the postwar period just when it is expected to take its full share of the work of rehabilitation in similar fashion to the job done by Canada's gold mining industry in leading the way out of the depression years.

4. *Recommendations.*

(1) That taxes paid annually to the Provincial Government and to municipalities be allowed as a deduction from earnings of all mining companies before assessment for Dominion Income and/or Excess Profits Tax purposes.

(2) That the Dominion bullion handling charge of 35c. an ounce be reduced to actual marketing cost to the Government and that the "overage" which has accumulated to the Government over the years be returned to the mining companies.

(3) That the subject of depletion be given careful study with a view to the adjustment of the current rates allowed in order to arrive at percentage allowances, both for companies and shareholders, which would be fair and equitable.

(4) That, during the first five years of tax-paying life, mining companies be allowed to deduct from earnings, before assessmnet for taxes, depreciation up to a maximum of 25 per cent in any one year.

Respectfully submitted,

WESTERN QUEBEC MINING ASSOCIATION
EUGÈNE LAROCHELLE,
Secretary.

Dated at Quebec,
May 1, 1946.

DOES THE DEPLETION ALLOWANCE TO MINING COMPANIES AND SHAREHOLDERS OF MINING COMPANIES PROVIDE FOR THE RETURN OF THE CAPITAL RISKED, FREE OF TAX?

About twelve years ago I, John Public, (Personifying some 2,400 optimists), decided to sell $1,200,000 worth of 3 per cent bonds and purchase an 80 per cent interest in a mine with the proceeds. I formed a company and paid $60,000 plus 600,000 shares (20 per cent) of a 3,000,000 share company to the prospector who had discovered the mine and done some preliminary exploratory work on the property.

I spent $540,000 on diamond drilling, shaft sinking, drifting, etc., and $600,000 on mine and mill buildings and equipment.

The grade of the ore was found to average $6.70 per ton of which 95 per cent or $6.37 was recovered in the mill. The operating cost before taxes and "write-offs" for depreciation and pre-operating expenditures average $4.37 per ton, leaving an operating profit of $2.00 per ton. The ore reserves were found to be sufficient to keep the mill operating for ten years at a rate of 500 tons per day.

My net income from the 3 per cent bonds (after paying individual income tax at an average rate of 33⅓ per cent) had been 2 per cent, or $24,000 per year and, as it was two years before any income was derived from the mine, my investment included $48,000 of lost interest, making a total of $1,248,000.

Officials of the Dominion Government told me that I could "write off" my pre-operating development expenditure at the rate of $0.30 per ton of ore mined and "write off" the expenditure on plant ($600,000) at a rate of 10 per cent per year.

Actually, the "write off" for pre-operating development could have been at a faster rate and when a three-year exemption from taxation is applicable under Section 89 of the Dominion Income War Tax Act, departmental regulations compel writing off 52½ per cent of the total within the three-year exemption period. (Because of this and other regulations, a gold mine of average grade would secure little advantage in the long run from this three-year tax exemption provision of Section 89). However, the following computations are simplified without materially changing the answer, by assuming that both the depreciation and pre-operating expenditure "write-offs" are spread over ten years.

It is further assumed that all earnings after paying operating costs and taxes are distributed as dividends each year.

My annual net return on this investment is computed as follows:

Gross earnings per year 180,000 tons at	$2.00	per ton	$360,000
Pre-operating development "write-off"	$54,000		
Depreciation on plant and equipment	60,000		114,000
Earnings after "write-offs"			246,000
$33\frac{1}{3}$ per cent depletion allowance			82,000
Taxable profit			$164,000
$164,000 taxable at 40 per cent	$65,600		
Estimated provincial tax (Quebec)	9,000		
	$74,600		$ 74,600
Gross earnings			360,000
Net earnings			$285,400
I get 80 per cent in dividends or			$228,320
My personal income tax on this (figured at $33\frac{1}{3}$ per cent) after 20 per cent depletion allowance is			60,885
Leaving me for interest plus return of capital			$167,435

As I had to get my $1,248,000 back in ten years, I decided to purchase the necessary amount of 3 per cent bonds each year which would, with interest compounded at 2 per cent per year (the net yield I get from 3 per cent bonds after paying income tax), return my capital in ten years. I found from sinking fund tables that the amount to be invested in bonds each year was $113,975 (9·13 per cent of my investment of $1,248,000).

Sinking fund	$113,975
Hence, my net annual return on this investment was	$ 53,460

$$\frac{\$53{,}460}{\$1{,}248{,}000} = 4{\cdot}28\%$$

Assuming that the prospector paid his income tax in the $33\frac{1}{3}$ per cent bracket, here is how the three partners in this venture, the governments, the prospectors and I (John Public), shared in the earnings:

The Federal Government got in taxes		
From the Company	$656,000	
from me	608,850	
from the prospector	152,212	
Total	$1,417,062	57·7 per cent of earnings
Provincial tax	90,000	3·6 " "
Total taxes	$1,507,062	61·3 " "
My net profit was	534,600	21·7 " "
Prospector's profit	418,588	17·0 " "
Total earnings	$2,460,250	100·0 " "
Sinking fund	1,139,750	
Gross earnings	$3,600,000	

I was rather astonished to learn that when I made a safe investment in bonds, the Government took only one-third of my income, but when I made a "risk" investment with the hope that it would create new wealth and provide jobs for many people, I found that the Government (the rest of the people) got nearly three times as much as I did without risking anything.

I understand that the depletion allowances now permitted mining companies and shareholders of mining companies is presumed to be sufficient to insure the return of the capital risked, *free of tax.* This was certainly not true in my case because the depletion allowance effected a saving of only $409,000 which falls far short of meeting the sinking fund requirement of $1,139,750.

How would the Government have fared in the above described mining operation if the depletion allowance had been 50% to both the company and the individual shareholder?

Gross earnings per year		$ 360,000
Pre-operating development "write-off	$ 54,000	
Depreciation	60,000	114,000
Earnings after "write-offs"		246,000
50% depletion allowance		123,000
Taxable profit		$ 123,000
$123,000 taxable at 40%	$ 49,200	
Provincial tax	9,000	
	$ 58,200	58,200
Gross earnings		360,000
Net earnings of company		$ 301,800
I would have gotten 80% in dividends or		$ 241,440
My personal income tax on this (figured at 33⅓%) after 50% depletion allowance would have been		40,240
Leaving me for interest and return of capital		$ 201,200
Deduct sinking fund		113,975

My net annual return on investment would have been

$$\frac{\$87,225}{\$1,248,000} = 7{\cdot}0\%$$

Here is how the three partners in this venture would have shared in the earnings if the depletion allowance had been 50 per cent to both Company and the individual shareholder:

The Federal Government would have gotten in taxes:

From the Company	$ 492,000	
From me	402,400	
From the Prospector	100,600	
Total	995,000	40.4% of earnings
Provincial tax	90,000	3.6% of "
	1,085,000	44.0% of "
My net profit would have been	872,250	35.5% of "
The prospector's profit would have been	503,000	20.5% of "
Total earnings	2,460,250	100.0% of "
Sinking fund	1,139,750	
Gross earnings	$ 3,600,000	

Here, again, we see that the Federal Government would have gotten more than I, John Public, who took all the risk.

In this case, the more realistic depletion allowance would have effected a saving in taxes of some $831,000, which would still be far short of meeting my sinking fund requirement of $1,139,750.

It should also be noted that 20 per cent of the saving in taxes effected by the depletion allowance goes to increase the earnings of the prospector who had no sinking fund payment to meet. It, therefore, developed that the life on my mine would have had to have been about 14.4 years and the depletion allowance 50 per cent to both the company and its shareholders in order for me to have received equal treatment with an investor in a manufacturing enterprise where the question of the earnings being partly income and partly return of capital does not arise.

Of course there are a few mines that have long lives, but the very exhaustive study of the mining industries of Ontario and Quebec made by Mr. Douglas Mutch, B.Sc., in 1943, showed that the average tax-paying life of a gold mine is less than nine years. Some mines have a higher metal content than $6.70 per ton, but the average recovery of gold made in 1944 by the seventeen producing gold mines in Western Quebec was approximately $6.37 per ton which happens to be the average amount I recovered from my ore. However, the average operating profit made by the seventeen gold mines in 1944, was approximately $1.80 per ton which is somewhat lower than the figure used in the hypothetical case dealt with herein.

From the welter of success and failure in the business world, there emerges now and then a particularly successful manufacturing enterprise and, less frequently, a particularly profitable mining company. I do not believe that it is in the interest of a citizen in a low income bracket, that his Government should single out such exceptionally successful enterprises for special taxation because if the company's earnings are heavily taxed, the poorest shareholder pays such tax in the same proportion as the richest shareholder, and a perusal of the list of shareholders of most mining companies will show that they are largely persons of modest means.

The more successful the company, the greater the profits which accrue to the Government. Obviously, then, the Canadian Government should be very much interested in encouraging its citizens to create profitable enterprises, particularly mining enterprises which derive most of their profits from the sale of metals to the peoples of other countries.

I submit that the best way to secure the odd very profitable mining enterprise, and at the same time build up a great basic industry, is to assure a reasonably fair return for venture money in a mine of average grade and average length of life. The figures herein show conclusively, I think, that to do this, it will be necessary to grant a depletion allowance of 50 per cent to the mining company and 50 per cent to the individual shareholder. Even this allowance does not provide for *the return of capital free of tax* except in the case of mines with a longer life than the average or with a much higher grade ore than the average ore now being mined in Western Quebec.

JOHN PUBLIC,
In collaboration with H. L. Roscoe.

April 25, 1946.

DISCUSSION ON BRIEF PRESENTED BY THE WESTERN QUEBEC MINING ASSOCIATION ON THE METAL MINING INDUSTRY OF THE PROVINCE OF QUEBEC

MINING—CANADA'S SECOND BASIC INDUSTRY

Hon. Mr. PATERSON: I should like to ask Mr. Little a question. Have you ever computed the gross amount of taxes paid by the whole mining industry of Canada? Are such figures available?

Mr. LITTLE: They may be available in the Canada Year Book. We have tried to limit our brief to Quebec.

Hon. Mr. McGEER: You mention the construction of the Transcontinental Railway. What part, generally speaking, would you attribute to the original railway development in helping the mining development of that area?

Mr. LITTLE: I think it had a certain amount to do with the mining development. Most of the prospectors came into that country from Ontario. I think the way in at that time, speaking of 1920, was from Dane on the T. & N. O. I do not think there were very many prospectors coming down from the north. Do you know anything about that, Mr. McRae?

Mr. J. G. McRae: They came down the various rivers. The original construction of the National Transcontinental through there really gave that country the greatest impetus in the way of prospecting.

Hon. Mr. McGeer: Then the extensions of that railway into the mining area—

Mr. McRae: Accelerated that.

Hon. Mr. McGeer: You mention, I believe, two extensions to that main-line system.

Mr. McRae: One was due to the finding of the Noranda mine and the other was due to the gold mines and some base metal mines that developed some hundred miles east.

Hon. Mr. McGeer: But both extensions were entirely due to mining developments?

Mr. McRae: Yes, I would say so.

Hon. Mr. McGeer: I suppose associated with that was a certain amount of power development?

Mr. McRae: I think that would add to the traffic.

Hon. Mr. McGeer: The development was after the building of the National Transcontinental Railway. That is quite important, because the National Transcontinental did not serve very far as a Granger road. But this mining development, if it is due to the railway, would seem to me to be a very substantial justification of that venture. Would you agree with that?

Mr. McRae: Without that railway prospectors entering that area would be running across country and taking advantage of the rivers. So you can imagine the development would have been very much retarded over a long period of years if the railway had not been built to provide access to the rivers running at right angles to the railway.

Hon. Mr. McGeer: So through the nature of the country's service by the railway, the railway has been a basic factor in the development of the mining program of western Quebec?

Mr. McRae: I would say so.

Hon. Mr. McGeer: I notice in your table you have very substantial figures of silver production, showing an increase from 2,000 ounces in 1927 to 2,111,000 ounces in 1943.

Mr. Little: Most of that silver, sir, is a by-product from gold mining and base metal mining. There is no actual silver mining done in western Quebec. I do not know of any mines actually operated for silver alone. All that silver, as I say, is a by-product of gold or copper or zinc mining.

Hon. Mr. McRae: Are they still prospecting for silver in Quebec?

Mr. McRae: At the moment, I would say no.

Mr. Little: To my knowledge there is no actual silver mining in Quebec.

Hon. Mr. McGeer: Where is that silver coming from to-day, from all the mines?

Mr. Little: Practically all the gold mines have some silver, and a lot of base metal mines also have some.

Hon. Mr. McGeer: I see you have come into lead production in 1943 with 404,000 pounds. Is that also a by-product?

Mr. Eugene Larochelle (Secretary, Western Quebec Mining Association): That is the gold in Manitou.

Hon. Mr. McGeer: Has there been any further development of that since 1943?

Mr. LAROCHELLE: We have another mine in Quebec in Pontiac county, the New Calumet.

Hon. Mr. McRAE: How dependent on the operation of the mines is the colonization effort of Quebec? In other words, what would happen to your colonization effort and to the colonies that have been located there if the mines were not operating?

Mr. LITTLE: The mines of course provide a market for their produce. Before the mines came into existence there were some old colonies around Amos; they were established along the Transcontinental. But these new settlers we have referred to here are mostly people who were brought in and settled right around the mines. I would say they would probably carry on, but they certainly would not be as prosperous as they are now. I should say that most of the people among the colonies spend part of the time in the mines or in the bush.

Hon. Mr. McGEER: Have you any figures showing the increase in population of this area?

Mr. LITTLE: The table covers the mining district.

Hon. Mr. McGEER: Going back to the production of silver in the Quebec mines as a by-product, what do you say as to the price of silver as it is to-day?

Mr. LITTLE: The price of silver, I think, has gone up recently.

Hon. Mr. McGEER: I think we have lifted it to the American level, but they are asking down there that it be increased to $1.29.

Mr. LITTLE: Silver is not our bread and butter. Our bread and butter is either copper, zinc or gold, depending upon the mine; silver is strictly a by-product.

Hon. Mr. McGEER: Of course, any increase in the price of silver would be a general aid to the mining of the main metals, which I take to be gold and copper. Is that right?

Mr. LITTLE: That is right.

Hon. Mr. McGEER: You have not apparently given the price of silver any consideration.

Mr. LITTLE: No.

Mon. Mr. McRAE: In the next paragraph you go into the future of the mining industry.

Mr. LITTLE: Yes.

The CHAIRMAN: If there are no further questions, Mr. Little will proceed with the next section of his brief.

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2. FUTURE OF THE MINING INDUSTRY

The CHAIRMAN: Do you desire to answer any questions on part 2, Mr. Little?

Hon. Mr. BURCHILL: The drop in the average profit per ounce of gold is due to increased costs?

Mr. LITTLE: Yes, costs and labour inefficiency. That is shown pretty well in tables 5 and 6.

Hon. Mr. McRAE: I notice this paragraph at page 11 of your brief: "Actually the majority of the gold mines of western Quebec are low grade, and many would operate at a deficit or at a very narrow margin of profit if the exchange premium were removed." Is that correct?

Mr. LITTLE: I took that to point out how close we are running to the margin in gold mining.

Hon. Mr. McRae: That is correct. Now, coming back to 1944, in 1941 you earned $8.75 an ounce. Is that correct?

Mr. Little: That is the average of the years up to 1941. This table is telescoped.

Hon. Mr. McRae: 1942, you earned $6.32 per ounce?

Mr. Little: That is right.

Hon. Mr. McRae: And that is reduced to $3.78—

Mr. Little: In 1944.

Hon. Mr. McRae: That includes all your operating mines?

Mr. Little: All our operating gold mines.

Hon. A. L. Beaubien: Would that be caused by shortage of labour, inefficient labour, and so forth?

Mr. Little: That has considerable to do with it, increased costs of operation and of supplies.

Hon. Mr. McRae: For instance, there is a $2.56 increase in costs of production, mining, milling, etc., as against the previous year.

Mr. Little: Perhaps Mr. McRae would like to say something on that.

Mr. McRae: This decreasing figure was continually decreased as the development work also decreased. The cost during those years was lower than it would be in normal times. In other words, there was not any normal development to keep the mines alive; they were living off their fat during that period. That has still to be caught up. With sufficient labour in 1946 and 1947 there is some question whether there would be very much balance left to return a mine to normal.

Hon. Mr. McRae: In other words, the figures are more favourable than the facts justify?

Mr. McRae: Yes.

Hon. Mr. McRae: Yours is considerably higher than that submitted to us in the Ontario brief. I think they showed an average of $1.84 a ton. Yours is based on ounces, however, which makes it a little different. Can you tell us what the average gold ore mined averages per ton?

Mr. Little: Our average in Quebec is $6.37.

Hon. Mr. McRae: Your average cost of financing is what, $5?

Mr. Little: Yes, it will be about $5 I should say.

Hon. Mr. McRae: You have about $1 margin of profit, is that about it?

Mr. H. L. Roscoe: For 1944, 70 Cents. That is the average of all the operating gold mines in western Quebec.

Hon Mr. McRae: That bears out your statement on the 10 per cent exchange premium. That is a practical case.

Mr. Little: That is quite true. You can see there would be a serious reduction if the exchange premium were taken off. I put that illustration to show how close the gold mines were operating on a profit margin.

Hon. Mr. McRae: That is a rather serious matter, Mr. Chairman, because I am advised, so far as exchange is concerned, that our balance with the United States is very substantial, and we could really put our money back to par any day we want to. We have a substantial credit in the United States.

Hon. Mr. Burchill: You said your difficulty so far as labour was concerned was not due to shortage of labour. Then I take it that it is due to increased cost of labour or inefficient labour.

Mr. McRae: To-day we suffer from both.

Hon. Mr. BURCHILL: I understood you to say that even if you had labour it would not help you any.

Mr. McRAE: We would have to resume development work on a much higher scale than shown on these figures; in other words, put the mines back to normal. These figures are away below the normal development charge.

Hon. Mr. BURCHILL: I follow that. But the reason is increased cost of labour?

Mr. McRAE: To begin with, the costliest labour is not available, and what is available is inferior to what we have had in the past. Furthermore, it is a roving type of labour and the turnover is from 29 to 30 per cent. After a time a roving man goes off elsewhere, and he is not a very useful man to us.

Hon. Mr. McRAE: I take it that what you really had in mind was that during the war you had not kept up development work, now you have to take up the slack on that. In 1944 and 1945 you had not done the usual amount of development work that a mine should do. During those two years your costs were correspondingly reduced. Now you have got to absorb that.

Mr. McRAE: I would point out one mine where our development is 24,000 feet a year tunnelling and so forth. Last year it was a little over 3,000 feet. So it gives you a mental note of the variation in operation in that phase of it.

Mr. LITTLE: There is another point bearing on this gentleman's remarks. During the past our miners have been mostly from Europe, and they learned their mining in the depression days. They are good miners. Most of them saved their money, and they have now a little stake. A lot of them moved off to the war industries in the south. Those men are very unlikely to come back. Not only are we behind in development work, but we have to start from scratch with new mining crews.

Hon. Mr. HORNER: Would immigration from Central Europe help?

Mr. LITTLE: I would say yes, it probably would.

The CHAIRMAN: If there are no further questions on Part 2, Mr. Little will proceed with Part 3 of the brief.

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3. TAXATION IN THE METAL MINING INDUSTRY

(a) *Double Taxation*

Hon. Mr. McRAE: Before we leave double taxation, Mr. Chairman, I think we ought to clear that point up for the members of the committee. I notice that apparently your Quebec Act raises the question as to whether it is a royalty or a tax. Is that the idea?

Mr. LITTLE: The tax under the Quebec Mining Act was originally a tax on sales. I believe I am right in saying that the administration of that tax became rather difficult or complicated, and in order to simplify it, it was changed to a tax on so-called mining profits. However, what we are trying to point out here is this. The profits taxes, as named under the Quebec Mining Act, do not allow the full deductions that you would have under the federal Act. In other words, supposing a mine starts up, it raises money through the sale of stock, and in the first few years it has a considerable amount of work to do, builds a mill and, more particularly, sinks a shaft and drives quite a few feet of drift, and unless it can write what we call pre-development expense off in the year in which it is made, then under the Quebec Mining Act it is not allowed as a deductible expense in determining the mine profits taxes. That is only one instance; there are a number of other instances. Mr. Larochelle, you may have something to say on that.

Mr. LAROCHELLE: I have here a copy of the Quebec Mining Act. Section 14, division III, reads as follows:

> 14. The annual profits shall be ascertained and fixed in the following manner:

From the gross value of the year's output, sold, utilized or shipped during the year, there shall be deducted the costs of operation and expenses incurred during the year in question, to wit:

1. The cost of transportation of the output of the mine, if such cost is borne by the operator, owner, occupant, or lessee;

2. The working expenses of the mine, including the salaries and the wages of the workmen and employees of the mine, mills and plant, but exclusive of other salaries or wages;

3. The cost of the necessary power and light for the operation of the mine, mills and plant;

4. The cost of explosives, fuel and any other supplies used in the mining operations and in the treatment of the minerals by the operator;

5. The cost of insurance upon the equipment, the buildings at the mine and the stock in storage;

6. An annual amount, based upon the probable annual average cost of repairs and renewals necessary to maintain operations in a condition of efficiency, to cover the depreciation due to ordinary wear and tear of the buildings and equipment, provided, however, that such amount shall not exceed fifteen per cent of the value of same at the commencement of the year, as appraised by an assessor appointed by the Minister;

7. The cost of work performed during the year in sinking shafts, making excavations and workings and trenching, in or upon the mining property, with a view to opening up or testing for minerals;

8. With the approval of the Lieutenant-Governor in Council, the cost of mining operations and prospecting by the operator on land situated in the Province of Quebec, other than land which is the object of the main operations.

In support of that I have a list of mining companies which paid duties upon mines to the province of Quebec, although they had sustained losses according to their annual profits and losses. This is the statement:—

MINING COMPANIES WHICH PAID DUTIES UPON MINES TO THE PROVINCE OF QUEBEC ALTHOUGH THEY HAD SUSTAINED LOSSES

	Losses	Profits Accruing to Account	Duties Paid
Francoeur Gold Mine, Ltd.:			
1942	$ 6,932 79	$ 60,856 46	$ 2,034 26
1943	2,014 28	66,498 60	2,259 94
1944	13,435 02	19,056 59	362 26
Senator Rouyn Ltd.:			
1943	30,924 25	31,387 00	835 48
New Calumet Mines Ltd.:			
1944	22,760 91	436,481 84	17,059 27
Mic-Mac Mine, Ltd.:			
1944	42,096 44	18,557 74	342 31

Among the various items that are disallowed according to the Mining Act are: interest on bonds and mortgages; outside exploration—I have about forty items here.

Hon. A. L. BEAUBIEN: How does that compare with Ontario mines subject to provincial taxes?

Mr. LAROCHELLE: To-day under the agreement that exists between the provinces and the federal government, the tax in Ontario is about 50 per cent of the Quebec rates. The rates in Quebec are upon annual profits in excess of 10 per cent. On $1,000,000 our rate in Quebec is 4 per cent; in Ontario, 3 per cent. On an excess from $2,000,000 to $3,000,000 the rate in Quebec is 6 per cent; in Ontario, 5 per cent. On an excess of $3,000,000 we go up to 7 per cent. Another thing, in Ontario they permit as a deductible expense the amount of tax paid to the federal government, and besides that they permit a deduction of 50 cents per ton on ore treated in the mills; in Quebec we do not have that deduction.

Hon. Mr. McRae: The question in my mind, Mr. Chairman, is whether these charges should be treated as a royalty or an income tax. As a royalty, it seems to me they would be clearly deductible; as an income tax it would become a federal matter whether they are going to have duplicate taxation by not deducting the provincial tax. There are so many exceptions and so many items mentioned, that it is not clear to me whether it could be considered a royalty or not. If the federal government allowed the deductions of income tax paid to the provinces you would be content, would you?

Mr. Larochelle: Here is the situation, sir. The federal government tells us that it is an income tax, and the provincial government tells us it is a royalty.

Hon. Mr. Burchill: The royalty imposed by the provincial government is so much on the volume of your sales?

Mr. Little: No. It used to be prior to 1923.

Mr. Larochelle: Prior to 1925 the Asbestos Mining Industry at one time paid 5 per cent on their sales, then it was reduced to 2½ per cent. When Western Quebec was developed it was changed to get it nearer to the Ontario rate. The idea was to pay duty if you had profits. Before that some of the asbestos companies had to pay a royalty.

Hon. Mr. Burchill: It is not based on any unit of production?

Mr. Larochelle: No. If one company sold $1,000,000 worth they had to pay the 2 per cent tax, no matter whether they made profits or not. That is the reason it was changed.

Hon. Mr. McGeer: What tax do those companies showing losses on taxes in Quebec pay the Dominion?

Mr. Little: I doubt very much whether they pay any.

Hon. Mr. McRae: No, I do not think they would pay anything.

Hon. Mr. McGeer: The deduction would not help those mines in that case, no matter on what basis.

Mr. Larochelle: It probably would not help those companies, but it would help the companies that are paying taxes today.

Mr. Alan Scott: That shows the province is collecting taxes where there are no profits.

Hon. Mr. Horner: What do the Quebec government call it now?

Mr. Larochelle: They call it a duty upon mines.

Hon. Mr. Horner: It is similar to a royalty.

Mr. Larochelle: Division III, section 12 of the Quebec Mining Act says: There shall be paid to the Crown, at the time and in the manner herinafter provided, the duties imposed by this division.

Hon. A. L. Beaubien: In that respect how is the tax you are paying the province of Quebec comparable with the royalty payable in Ontario?

Mr. Larochelle: Under the existing agreement with the province of Quebec and the federal government we are paying about twice what Ontario mines are paying to the Ontario government.

Hon. A. L. Beaubien: In dues?

Mr. Larochelle: Yes.

Hon. Mr. McGEER: Have you looked at this proposed agreement between the Dominion and the provinces with reference to tax deductions?

Mr. LITTLE: Yes, sir, I have read that.

Hon. Mr. McGEER: It is a pretty general program as I read it in the agreement, but is seems to me the Dominion was indicating some measure of relief along the line indicated here.

Mr. LITTLE: I believe that was the intention of the proposals.

Hon. Mr. McGEER: Have you examined it in detail at all?

Mr. LITTLE: Not other than to have read it through.

Mr. LAROCHELLE: You are referring to the proposals of the Dominion Government in this last conference?

Hon. Mr. McGEER: Yes.

Mr. LAROCHELLE: I think they have one clause—I don't remember the page—where they propose to grant exactly what we are asking.

Hon. Mr. McGEER: That is in very general terms, but I should think they would be very carefully scrutinized. Are you conversant with the deductions allowed in regard to State and municipal taxes from the federal income tax in the United States?

Mr. LAROCHELLE: No, sir.

Hon. Mr. McGEER: I am not speaking with absolute certainty, but I believe that in the United States all taxes imposed by State and municipal authorities or local authorites are deductible from the federal income tax. I was wondering whether you have any information on that.

Mr. LITTLE: No, I have not, sir.

The CHAIRMAN: Any further questions? If not, Mr. Little will proceed with his brief.

3. TAXATION IN THE METAL MINING INDUSTRY

(*b*) Dominion bullion handling charge.

Hon. Mr. McRAE: Might we clear up that question of bullion charges before you proceed further, Mr. Little? Could you tell the committee the procedure followed by the government with respect to the minting of the gold which is turned in by the producers?

Mr. LITTLE: I am not a gold producer, Mr. McRae.

Hon. Mr. McRAE: I am told it is all shipped to the United States and refined there.

Mr. McRAE: We understand it is refined here in Ottawa. It is shipped to the Mint. The Mint samples it, and the Mint return to the mines is accepted. That is, they sample it as they refine it, as we understand, for which they charge 35 cents an ounce, plus whatever handling charge there may be. As we understand, there is 20 cents excess. In other words, the charge for handling an ounce of gold is 15 cents, and they have 20 cents to the good. When you go back to our cost per ounce sheet, which is pretty low, 20 cents is important.

Hon. Mr. McRAE: Your estimate of 19 cents is purely an estimate?

Mr. McRAE: That is a figure pretty well established we understand.

Hon. Mr. McRAE: I might say that in shipping gold from Alaska to the United States Mint at Seattle our average charge is about 11½ cents an ounce.

Mr. McRAE: Express?

Hon. Mr. McRAE: That is the mint charge, 11½ cents. You pay express on the gold you ship to the Mint here?

Mr. McRae: We do.

Hon. Mr. McRae: So you deliver it to the Mint here free. The United States charge is $11\frac{1}{2}$ cents an ounce. I am not aware how you got your 19 cents. Why should there be this overage of 20 cents when they mint carefully? Why should they not make exact returns?

Mr. McRae: I believe, senator, that in sampling small amounts it is not quite as accurate as the overall. At the end of the year it will total up somewhat higher as the small lot sampling comes in.

Hon. Mr. Horner: Do you know whether the United States Mint have any overage?

Hon. Mr. McRae: We made no inquiry, but their charges are stated charges, graded a little on the size of the shipment up, I think, to $20,000. I would say the average on shipments from $5,000 to $20,000 would be $11\frac{1}{2}$ cents an ounce. I do not see how you get your 19 cents.

Mr. McRae: We would be paying 15 cents an ounce in contrast to their $11\frac{1}{2}$ cents. There is the 20 cents extra change.

Hon. Mr. McRae: Your contention is that in as much as they insist on the gold being shipped to them they should do it at cost?

Mr. Little: That is correct.

Hon. Mr. McGeer: Could we not get the Master of the Mint to give us a statement on that?

Hon. Mr. McRae: We could get a return on that.

Hon. Mr. McGeer: I do not see why we should not have the Master of the Mint come here and explain what those charges are.

Mr. Little: I will proceed with the next subsection, Mr. Chairman.

(*c*) Profits Taxes and Reduction in the Metal Mines Working Force.

Hon. Mr. McRae: During this period, as a result of this situation, have you left what would otherwise be mineable ore in the ground?

Mr. Little: No, I would not say that. I would say this, though. As Mr. McRae pointed out a little while ago, his reduction in development has been from 24,000 feet to 3,000 feet per annum. In our case I know it has been much the same. It is conceivable that if this condition lasted long enough in a mine—in a smaller mine they might be very close to it—they could mine all the ore that was developed, and they could be in a position where they would have to stop milling and go ahead and develop the mine again in order to carry on their production. We made an estimate at our place and we figured roughly that we have something in the neighbourhood of half a million dollars to spend on development work to catch up with work we did not do in the years 1943, 1944 and 1945.

Mr. McRae: Mr. Chairman, there is a further remark that might be made in respect to Senator McRae's question. While there has been ore left in the ground to date, when the normal development is resumed, in order to make ends meet I can see the possibility of ore being left in the ground in future. In other words, mining companies to break even before that much higher development charge would probably stick a little closer to the higher-grade ore rather than develop the low-grade body.

Mr. Little: I come now to depletion, Mr. Chairman.

(*d*) Depletion

Hon Mr. McRae: The original depletion allowance was 50 per cent for gold mines. Is it your idea that that should be restored? You are only asking for consideration, you are not asking for anything definite?

Mr. LITTLE: No, we did not feel we were in a position to come out and say what it should be. We thought it should be carefully considered, and it would rest with others than ourselves to decide on what the depletion allowance should be.

Hon. Mr. McRAE: But you feel that $33\frac{1}{3}$ per cent is not ample?

Mr. LITTLE: We do. At least $33\frac{1}{3}$ per cent and the 20.

Hon. Mr. McRAE: Yes.

The CHAIRMAN: Mr. Little will now proceed with the next subsection (*e*).

(*e*) Life expectancy of Metal Mines and Depreciation.

Hon. Mr. McRAE: Have you a definite recommendation to make in regard to that?

Mr. LITTLE: We have under recommendations, if you will note No. 4.

I will read our conclusions now, Mr. Chairman.

CONCLUSIONS

4. Recommendations.

Mr. LITTLE: Appended to this brief is a hypothetical example of a mine and the results of taxation upon the operation. The experience of the mine has been put down in as simple a form as possible to try and make it as clear as we can in just what condition a similar gold mine would be under present taxation laws.

The CHAIRMAN: Are there any questions? Do you wish any of your members to appear, Mr. Little?

Mr. ROSCOE: Mr. Chairman and gentlemen. I think perhaps some explanation should be made of that appended hypothetical case, because I wrote it. I did not write it for the purpose of this brief, but for another purpose, and it was inserted there without my whole-hearted approval. It was thought it would illustrate and show the way this depletion allowance operates.

The machinery of depletion was put in with the idea that the federal government does not tax capital, so that the depletion is designed to ensure that the capital will be returned untaxed. This is not altogether a hypothetical case, because the figures used there refer to the average gold mine in the province of Quebec in 1944. So it can be brought home and resolved back to actual royalties so far as Quebec in concerned, and it does show that this principle is not borne out and that actually the shareholders are taxed on capital.

Hon. Mr. DUPUIS: Mr. Chairman, in paragraph (*e*) entitled "Life Expectancy of Metal Mines and Depreciation," it is said: "Of the 1093 metal mining companies incorporated or licensed in the province of Quebec from 1907 to 1941, only nine companies or 0.82 per cent are considered to be economically successful." Would you have any comment to make on the capital invested and the result arrived at as to whether the mining industry is a paying proposition?

Mr. LITTLE: We have some figures here, sir, that might illustrate that.

Mr. ROSCOE: We have some figures which show that the total paid-up capital, capital presumably invested in the gold mines of Quebec from 1929 to 1944, was $40,000,000. Similar figures for the base metal mines in the province, exclusive of Noranda Mine, is $27,000,000.

Hon. Mr. DUPUIS: In the same period, 1929 to 1944?

Mr. ROSCOE: Yes, up to the year 1944. The earned surplus of the gold mines to date, 1929 to 1944, is $46,000,000.

Hon. Mr. DUPUIS: You mean those mines that you call economically successful?

Hon. A. L. BEAUBIEN: $40,000,000 invested and $46,000,000 returned?

Mr. Roscoe: Yes.

Hon. Mr. Horner: That is, gold mines?

Mr. Roscoe: Yes.

Hon. Mr. Dupuis: What was the $27,000,000, metal mines in general?

Mr. Roscoe: That is the base metal mines. The capital was $27,525,000, and the earned surplus $20,762,000, up to the end of 1944. In addition to that, though, we have some figures which we could not get for the earlier years, prepared by the Quebec Department of Mines, of the cost of work done in the province of Quebec by mining companies who did not reach the production stage. From 1938 to 1945 that amounted to $20,000,000.

Hon. A. L. Beaubien: That was sunk in the mines with no return?

Mr. Roscoe: That is right. So $20,000,000 was then invested in mines which did not reach the production stage.

Hon. Mr. Dupuis: Would you tell the committee how it compares with mine production in Ontario?

Mr. Roscoe: We have not that figure, sir.

Hon. Mr. McRae: There is one figure the Ontario Mining Association gave, Senator Dupuis. They had one mine out of a hundred. You have here one out of 82. So comparatively they are pretty much the same.

Mr. Roscoe: If it were not for one very exceptional mine, Noranda, its profits were very large and have amounted to the end of 1944 to $121,000,000, so that offsets the losses of the other base metal mines and the mines that did not reach success.

Hon. Mr. McGeer: They are the blue ship.

Mr. Roscoe: They are our jack-pot. But the total, sir, is about $100,000,000. As we have got the figure, the total amount of capital invested in the Western Quebec Metal Mines is $100,000,000, including Noranda, and the total take or profit before return of capital is roughly $180,000,000. That is including the profits from Noranda. If you deduct the $100,000,000 invested, you have $80,000,000 profit to-day.

Hon. Mr. Dupuis: That means that $80,000,000 profit was in the hands of the few.

Mr. Roscoe: No, most of those companies have large numbers of shareholders. Noranda has 19,000 alone.

Hon. Mr. Dupuis: You take your 1,093 companies, only nine of which were paying, and out of those nine there is only one that you claim is a good investment.

Mr. Roscoe: So far as these others are still operating, eventually they may justify their investment over the period of fifteen or sixteen years.

Hon. Mr. McGeer: The overall picture is a very satisfactory one from the point of view of actual profits.

Mr. Roscoe: Because you have one jack-pot—Noranda.

Hon. Mr. Dupuis: Nationally speaking, it is a good proposal for Americans who go into that industry, but individually it is not so good.

Mr. Roscoe: It is quite a gamble, sir.

Hon. A. L. Beaubien: A great deal of the capital invested in those mines in Quebec would be American capital, would it not? Have you any figures on that at all?

Mr. Roscoe: No. I have seen figures on it recently, but I have not any here.

Hon. Mr. Beaubien: Would you make a guess?

The CHAIRMAN: I understood Senator Dupuis to say there has been only one successful mine in Quebec. I understood there have been nine successful mines.

Hon. Mr. DUPUIS: But the Noranda mine is the only one that pays a surplus of profit over capital investment.

Mr. ROSCOE: That is not quite right. As a group the gold mines have not got their money back, but some have, and they have made up for the losses. In this group of sixteen or seventeen gold mines there are perhaps nine or ten that have been successful, but the other eight have had losses which have offset those gains.

Hon. Mr. DUPUIS: Have you a table showing in detail the capital invested, the expenses and the profits made up to date of the nine mining companies mentioned in your brief?

Mr. ROSCOE: I do not think so.

Hon. Mr. DUPUIS: Could you supply the committee with that?

Mr. ROSCOE: I will try and get it for you, sir.

Hon. Mr. McGEER: The companies all publish annual statements.

Hon. Mr. McRAE: The picture is not really as black as it looks. It is a comparatively new industry in Quebec, and there are great hopes of it for the future. I am sure Quemont, adjoining Noranda,—those interested in that mine have great hopes for their property. This is what I may call the initial period of mining development in Quebec. The prospects are pretty good, outside of the immediate situation. On the whole, the picture is much better than the figures to date would disclose.

Hon. Mr. DUPUIS: I quite agree with General McRae that the picture is not as dark as we might think it is, because those who invest in gold mining must expect that they will have to wait during a long period before the full production is obtained.

Mr. ROSCOE: Correct.

Hon. Mr. DUPUIS: May I know from you or from other witnesses what are the gold mining prospects in Ontario? The industry started much earlier there than in Quebec. What is the comparison between the two provinces in regard to similar gold mining companies that have been successful in Ontario?

Mr. ROSCOE: I believe that is shown in the brief presented last week by the Ontario Mining Association. I am not familiar with the figures.

Hon. Mr. DUPUIS: General McRae knows that situation very well.

Hon. Mr. McRAE: It is only a personal opinion. I think Quebec has as good chances as Ontario for mining development, probably better, but we cannot tell what is going to happen in the industry. True, there are outstanding successes, like Noranda in Quebec, and I would judge that Quemont will come along. It will probably take from three to five years to bring the development of that property up to any considerable magnitude. You have lots of prospects in Quebec and there are lots of them in Ontario. Ontario has been longer in the game. Lake Shore; McIntyre, Dome—those mines are outstanding successes. We should not take the failures too seriously.

I should like to ask a question that I asked the Ontario delegation without getting much satisfaction. Is not the improved geological understanding of deposits and the ability to drill them now going to result in a larger percentage of prospects being much more cheaply developed, and a larger percentage being successfully developed down below? We have improved greatly in that regard over the last twenty-five years. Am I right in thinking that our successes will be better than they have been in the past?

Mr. Little: I would say up to a point, but it takes a lot of money to find a mine. I am speaking of our own case, where we have a property adjacent to a very large one.

Hon. Mr. Dupuis: What mine?

Mr. Little: The Waite Amulet Mines. We have spent over $1,000,000 in exploratory drilling. With us it is like looking for the plums in a plum pudding. There is no cheap way of doing it; we have to do diamond drilling or underground development. In Quebec to-day there is a considerable amount of overburden. We can use certain geo-physical methods, but it still takes plenty of money to find the ore.

Mr. McRae: Most of the mines in Quebec were developed during the depression years. At that time labour was very plentiful and was not as costly as it is now, and supplies were at rock bottom prices. A great factor of expense in Quebec is that the area has to be diamond-drilled. We have had to have 73 holes drilled. Today we are faced with the rising cost of diamonds and the quality going down. With all these factors present, I think we are faced with a higher cost of mine development.

Hon. Mr. Dupuis: That is a general situation.

Hon. Mr. McRae: I see I get no support for my theory either from Ontario or Quebec. Probably I have the wrong end of it.

Hon. Mr. McGeer: Developing what Senator McRae has said, that the picture is not quite as dark as it seems, in addition to this return of money, there is of course a very great value in the development work on mines which are still operating on which you have not given us any figures at all. There is an enormous capital investment there.

Mr. Roscoe: Yes. These mines are not finished. I hope I have not painted a black picture, because we mining managers are not pessimistic. We would not be in the business if we were not optimistic. I was just answering a question, and I am afraid my answer painted a black picture, which I did not intend. Perhaps the explanation is just as you have said. These figures I have given show the yield from mines today; but quite a number of these mines, twelve anyway of the gold mines of Quebec, plus six or eight base metal mines, are going to continue, we hope, many years in the future on the same capital.

Hon. Mr. McGeer: As I got the overall picture, the return on the money invested has been very satisfactory, if you include the Noranda mine.

Mr. Roscoe: Yes.

Hon. Mr. McGeer: In addition to that, there has been an enormous industry developed, an industry which is worthy of the co-operation of both the Dominion and provincial governments in aiding the industry to meet the difficulties which are confronting it. But on the whole as a national asset mining in Quebec has now proved itself not as a temporary but a very permanent factor in the economic wealth of the Dominion, so far as this section of the country is concerned. Is that right?

Mr. Roscoe: Yes, sir, it is a going concern.

Hon. Mr. Dupuis: In some parts of the country at least there is quite a general opinion that the best prospect for a prospector is the public purse, where you can drill and find money!

The Chairman: Any further questions, gentlemen? If not, on behalf of the committee I wish to express to those who compose this delegation our appreciation of the trouble they have taken to come here and give us the benefit of their extended experience in mining; also, for the very informative brief that they have presented to us and for the cordial manner in which they have answered all questions.

Mr. LITTLE: Thank you, sir. With your permission, I may say that I believe the Ontario Association mentioned something about a visit of your committee to Northern Ontario this coming summer. If the committee should be in the north country we would certainly appreciate having them come along to Western Quebec.

Hon. Mr. McRAE: I do not think, Mr. Chairman, anything gives us a more pleasant feeling than to go up into the mining area of Quebec and see the development that has gone on there during the depression and since. Those new towns and new settlers there are the best eye-opener of what the mining industry means to this country.

The CHAIRMAN: If we go to Northern Ontario we shall be very pleased to cross over into Northern Quebec.

TORONTO STOCK EXCHANGE BRIEF ON MINING

The CHAIRMAN: Now, gentlemen, we have with us a delegation from the Toronto Stock Exchange. I understand that Mr. A. J. Trebilcock will present their brief.

Mr. A. J. TREBILCOCK (Executive Assistant to the President of the Toronto Stock Exchange): Mr. Chairman and honourable senators of the committee, the Toronto Stock Exchange is represented here by its president, Mr. J. B. White, by Mr. F. J. Crawford, past president and member of the managing committee, and by myself as executive assistant to the president and manager of the Exchange.

I have here a printed brief which, with your permission, I propose to read. I shall place in the hands of your Clerk copies for each member of the committee.

Before proceeding to read the brief I think I should say by way of introduction that the Toronto Stock Exchange is a corporate body incorporated by special Act of the Ontario Legislature. We have 113 seats or memberships, which are held and operated by 87 different stock brokerage houses, 86 of which operate in Canada with 150 different offices from Victoria in the West to to the Maritimes in the East, and that these brokerage firms, as of May 1, employed 2,573 people, including the principals in the firms.

We are particularly concerned with mining for two reasons. First of all, because of the great part which it plays in Canadian economy. Secondly, because a large proportion of the business on the Toronto Stock Exchange that is measured in the volume of share trading each day is in mining stocks. As a matter of fact, in the past years the sales on the Exchange totalled 442,000,000 shares, of which 432,000,000, or slightly over 97 per cent, were shares of mining companies. The actual amount of money which changed hands as a result of the purchases of those shares cannot be separated into mining stocks and other issues, because it is not practicable for our clearing house to segregate the moneys which are paid daily to the clearing house for the clearing of the different securities. However, that figure of 97 per cent, the volume of our sales which are mining stocks, has been pretty constant throughout the years; it ran the same figure in 1944 and showed over 96 per cent the previous year.

One other point I might mention. We have at the present time 591 different companies whose securities are listed on the Toronto Stock Exchange. Of that number 275, or 46 per cent, are mining companies. So you can see that the Toronto Stock Exchange is very vitally interested in the mining industry in Canada.

Now, with your permission I will proceed to read our printed brief.

TORONTO, May 10, 1946.

To the Members of the Senate Committee on Natural Resources:

Honourable Senators:

On behalf of the members of The Toronto Stock Exchange, we submit that Canada stands at the crossroads with respect to its mining industry. The industry can either be encouraged to expand and thus make a great contribution to national wealth or it can be restricted and hedged about with restraining influences, such as heavy taxation.

Evidence that there is a partial recognition of the role that mining could play in national economy is found in legislation which is providing improved transportation and power facilities in certain areas. But this recognition is not enough.

Canadian mining shareholders are quite aware of what has happened in the past to hurt their investments. What was done in the war period was inevitable and was not protested. What is to be done in the peace time is of immediate concern.

Stimulation of gold production, for example, is a practical matter, capable of studied and reasonable action by the controlling authorities.

Gold has been and again can be Canada's largest single export item. Rather than kill the goose by poisonous taxation, the government should be fattening it up. There are countries which would turn somersaults to encourage gold mining if they had our chance. They would remit all taxes. That will not be necessary here if we adopt good measures now—but we may be forced to do it if we have a depression. The desired objective could be attained without economic compulsion.

In the last depression the governments of Australia not only abolished gold mining taxation but encouraged search for new deposits by offering special bonuses and prospecting allowances. The gold mining production picked up smartly. Australia needed the gold for foreign exchange and got it.

South Africa, in its 1946-7 budget, has reduced gold mining taxation by 25 per cent. The Union offers an excellent example of a country which draws its principal taxation income and the bulk of its prosperity from gold production. It is the first of the larger countries to indulge in budget paring after the war and the reductions apply not only to gold mining but to many other lines. The country has practically ceased to be a borrower from beyond its own boundaries. Gold is a potent force in international trade.

Canada exports 80 per cent of its base metals in normal times, competing with low-cost-labour sources of production. Canadian base metals mines provide Canadian manufacturers with the lowest-cost metal in the world to-day. But the deposits are not inexhaustible. To replace them investors must be encouraged to engage in new commitments, new searches, new developments. There must be an improved prospect of profit.

In submitting a brief on the role which Canadian metal mines, including those producing gold, copper, nickel, lead and zinc, played in the late war it should not be forgotten that it was the *shareholders* of the producing companies who made the financial sacrifice. These shareholders have not complained of their contribution to the war effort.

There are at least 250,000 Canadian shareholders with a financial interest in these undertakings. There are 162,404 Canadian shareholders in Ontario metal mines *alone*.

WHAT THE BASE METAL MINES SACRIFICED

Metal mines of all kinds in Canada suffered severely during the war period for a number of reasons. Even before the conflict broke out, the producers of copper, nickel, lead and zinc communicated with the British government, offering their production at prices slightly below that prevailing on world markets. Official contact was made quickly through Ottawa, definite prices and profits were set and contracts, renewable yearly, were signed. This arrangement persisted throughout the war, but with slight changes based on costs.

The metals were sold at basic prices as follows:—

Copper	10.04c
Lead	3.00c
Zinc	3.50c

All prices in Canadian funds, f.o.b. Canadian ports.

That much higher prices could have been obtained is easily proven. In contrast, U.S. *base* prices on base metals were as follows: in U.S. funds, f.o.b. refinery:—

Copper	12.00c
Lead	6.50c
Zinc	8.25c

But—and this is important—the U.S. government in 1942, to encourage production, introduced a premium plan, under which metal production was bonused. Bonuses were as high as 17c for copper, 8.25c for zinc, and 5.50c per lb. for lead.

Under this plan the base metal producers in the U.S. received, through June, 1945, the amount of $211,285,000 on 2,450,836 tons, or an average of nearly 5c per lb. for the three metals.

The sacrifice to Canadian mines and their shareholders is obvious. The mines and their shareholders made available 80 per cent of base metal production in the war period, as a patriotic contribution to the winning the war. The provision of this metal was of the utmost importance to Great Britain, at a time when other sources were cut off.

WOOING GOLD

The contribution of Canadian gold mine shareholders was of a different kind but none-the-less substantial.

In the early days of the war, when Canada was hard pressed for U.S. funds, the Canadian government urged on the mines the production of as great an amount of gold as possible. The mines quickly responded.

Hon. J. L. Ralston, Minister of Finance, speaking to the budget, said on June 25, 1940:

"I should add here that there is one important way in which supplies of foreign exchange may be increased. Canada is fortunate in the strength and extent of her gold mining industry which, in the last eight years, has shown such rapid expansion. Further expansion of output is the most immediate and important means at hand for directly augmenting our supplies of foreign exchange and I think I can appeal with confidence to those engaged in producing gold to increase their production as rapidly as possible.

"In this connection I am glad to acknowledge assurances already from a number of important companies that it will be their policy to step up production as far and as fast as conditions permit."

Hon. J. L. Ilsley, who succeeded Hon. J. L. Ralston as Minister of Finance, in his budget address in December, 1940, said:

"We are producing and selling to the United States newly mined gold in an amount which will probably reach or exceed $200,000,000 this year and I make no excuse for laying it as a patriotic obligation upon our gold mining industry to increase the amount next year by every means known to the able and experienced operators of that industry."

A summary of the December, 1940, budget, so far as gold mining was concerned, showed:

The Canadian government declared gold mining an essential industry. It announced its willingness to enter into partnership with worthy new properties; announced that the depreciation allowance might be increased and the depletion allowance changed to help struggling marginal mines or to assist others that could expand; arranged that the senior and other gold mines might increase production without having the greater part of the increase taken away from them; gave truly broad powers to the Minister of Finance in order that a greater output of gold might be secured.

In July, 1940, G. C. Bateman, Canadian Metals Controller, informed the gold mines: "Please inform your employees that in carrying out their present work they are performing a real service to this country. You should also inform them that you will co-operate with the authorities in charge of the training scheme in working out an orderly program so that while all eligible men will receive training it will be done in such a way as to disrupt operations as little as possible."

THE HONEYMOON ENDED

By December, 1941, with the entry of the U.S. into the war and the expansion of hostilities to the Pacific, the era of encouragement for Canadian gold mining ended. The U.S. shortly shut off gold mining in that country, placed restrictions on the use of steel, equipment, chemicals, etc., for export for gold mining affecting Canadian sources of supply.

Canada did not prohibit gold mining but accent on allocating supplies was placed on base metals mining and munitions production. Mines found it hard to maintain supplies.

Gold mining was no longer considered in Canada as an essential industry.

This was the result of the Hyde Park agreement between the U.S. and Canada concerning exchange of commodities and production, lessening the demand for Canadian exchange and hence the importance of gold as an exchange medium.

The result of the early encouragement had been action on the part of the gold mines to increase production, this taking the form in some cases of increasing milling rate; in others, the mining of easily available ore and of higher grade ore, to the neglect of orderly and balanced mine operation and development.

Another cause of shareholder suffering was increased taxation which, in earlier plans of Ottawa, was to be tempered for the gold mines, to increase output. The suggested help for marginal mines did not materialize. Labour regulations with respect to manpower placed gold mining in a low category, priorities on supplies were made progressively more difficult to secure.

Production declined, profits and dividends likewise. Certain producers had to close. Not a single Canadian gold mine shareholder complained; some non-resident shareholders did.

During the war the gold mines continued to produce to the utmost of their dwindling capacity, in order to prevent the bankruptcy of their communities and the throwing out of work of their remaining men.

The gold mines responded to the appeal of Ottawa to search for strategic metals and minerals, Scheelite, mercury, base metals were sought, some non-profit operations were undertaken, losses were made. The gold mines turned their surplus machine shop capacity to the making of munitions.

Several gold mining companies initiated the highly important magnesium industry in Canada, a prime war asset.

Gold mines now find themselves, in many instances, with depleted reserves, the results of years of restricted labour forces and essential supplies. Development work has been perforce neglected and it will take time and a great deal of capital reserves to bring the properties back to balanced operation.

Abnormal taxation in the war period took profits ordinarily ploughed back into development or accumulated for that purpose. Such funds will have to be built up anew.

Canada now needs United States exchange and will require it more urgently as time passes. The arguments for increasing of gold production, advanced by Mr. Ralston and Mr. Ilsley in 1940, are as potent to-day as they were then.

Gold is one kind of Canadian production which needs no advertising for its sale.

Gold production should be encouraged by the relief from the present crushing burden of federal taxation.

In the war period, with production restricted, exploration was increased and there are new discoveries over widely scattered areas of the Dominion. Capital to develop the new finds must be encouraged to enter the industry.

Importation of foreign capital from United States or other countries to undertake mining operations is a clean gain to Canadian economy, even if the operation does not meet with success. The money so imported is used for Canadian labour and equipment. If the operation is a success, Canada benefits by continuing production. If profits accrue year by year, the government as well as the manufacturing and other industries benefit through taxation. Through this channel all Canadians benefit.

It has been loosely stated that $1,000,000 weekly comes in from the United States for Canadian mining promotion. This would be a difficult figure to substantiate and is likely entirely out of with actualities. Yet, any millions that do come in over a period help to develop the national resources permanently. Very substantial sums have come and will continue to do so particularly after certain Foreign Exchange Control Regulations are relaxed.

Canada seeks new channels for employment and new mining operations furnish these, directly and indirectly.

To sum up. The government can take one of three courses. It can encourage mining by taxation reduction and other beneficial legislation; it can stand pat and let things drift; it can discourage mining by further restrictions. The sensible course is obvious. No great sacrifice of revenue is entailed by cutting the ropes that restrain enterprise, initiative and enthusiasm. The basic fact is that Canada is blessed with immense potential resources of minerals *which are without actual value until develop.* It, for the present, has abundant prospecting and engineering talent. In the mining areas Canada has the opportunity of creating vast new wealth, a great source of employment, a new empire for succeeding generations. All of these benefits can be secured without sacrificing the interests of anyone, without hardship to the Canadian people as a whole, without surrender of any degree of national or provincial sovereignty.

Respectfully submitted,

J. B. WHITE, *President,*
A. L. A. RICHARDSON, *Secretary.*

Mr. TREBILCOCK: Mr. Chairman, I shall be very glad to answer any questions so far as they lie within my power.

Hon. Mr. McRAE: I have no questions, Mr. Chairman. The brief states facts that I think we all realize, and I myself agree with. The brief very clearly states the particulars.

The CHAIRMAN: It explains itself.

Hon. A. L. BEAUBIEN: What do you base your statement on that gold will be a great factor in the future? Is the demand for gold increasing all the time?

Mr. TREBILCOCK: The demand for gold is always steady and consistent. It is one commodity for which there is always a readily available market at a fixed and set price. If the gold production in Canada can be increased by 10 per cent it is not necessary to go out and try to find a market for it. The gold can be sent to the Mint and it is then purchased by the government at the prevailing price. As long as we believe that gold is going to be the basis of our values, then just so long that readily available market will persist, and consequently any increased production will mean that much more money available in the Dominion of Canada.

Hon. A. L. BEAUBIEN: I understand the United States has so much gold buried in some place that the government do not know what to do with it. Are you of the opinion that in many countries of the world the people, prior to the war, did not put the value on gold that they do today?

Mr. TREBILCOCK: I think the obvious answer to your question is in the Bretton Woods agreement and the basis which has been set up for the new International Bank, or whatever the organization is called, that all international balances are still to be settled in gold. There is a certain school of thought, of course, which states that the world will never get back on the old gold basis; but the truth of the matter is that the world is on the gold basis today. The easiest way, indeed, the only permissible way, now to settle international balances is through gold.

Hon. Mr. HORNER: That may be true if Russia refuses to enter into the Bretton Woods agreement. I understand the Russian authorities have refused up to the present, and they may still refuse to enter into international arrangements so far as gold is concerned.

Hon. Mr. MCRAE: It is said the Russian authorities refused to go into the Bretton Woods agreement because of the price of gold; they wanted a higher price. That is the report. Could the witness give us the values which are prevailing for gold in several countries other than the United States? I saw a statement in this respect some days ago, but I do not want to repeat it.

Mr. TREBILCOCK: I have not the figures available. I could have secured them very easily. But it is quite true that gold is selling in the open market in various countries of the world at a considerably higher equivalent than the $35 American price. Among those countries are China and France. I recall both at the moment, and I know there are others.

Hon. Mr. HORNER: Mr. Chairman, last week the Ontario Mining Association presented a brief in which they endeavoured to show the value of the mining industry to the country by stating the amount of money indirectly spent by the industry. I should like to know what the mines are worth to your brokerage business. Very often, whether a mine is successful or not, the brokers make a huge sum of money because the same shares may be sold back and forth, and of course they charge for each sale.

Mr. TREBILCOCK: We charge a specified commission, which is set by all stock exchanges.

Hon. Mr. HORNER: You have not any figures showing the total money that the mining industry has been worth to the brokerage business?

Mr. TREBILCOCK: No, it would be impossible to determine that because members of the stock exchange and their partners do not have to pay a commission on the business which they do for themselves. A member of the stock exchange may be a large shareholder in Dome, McIntyre and Noranda, and be paid no commission on the shares he buys; he is in the business. Furthermore, it would be impossible to ascertain the figures, for this reason: all stock exchanges in this country allow non-member brokers who have been put on an approved list what is called a split commission. That is, if a broker who is a member of the Winnipeg Stock Exchange but not of the Toronto Stock Exchange, gives an order to a Toronto broker, which he is passing on for his own customer, the Toronto broker does not get full commission. So it would be impossible to ascertain what Toronto Stock Exchange brokers get by way of their commissions

Hon. Mr. HORNER: But the mining industry of Canada is very valuable to the brokers?

Mr. TREBILCOCK: Indeed, that is shown by the fact that a very large proportion of our sales are in mining stocks.

Hon. Mr. HORNER: Yes.

Hon. Mr. WHITE: Could you give us any information with reference to the number of shares that have been dealt in during the year, how much were producing mines and how much of just non-producing mines?

Mr. TREBILCOCK: No, those figures are not available. They could be obtained by a great amount of work.

Mr. F. J. CRAWFORD: (Past President and member of the Managing Committee): I suggest that honourable senators might be interested in knowing the actual amount of money put in the prospects listed on the Toronto Stock Exchange in the last year.

Mr. TREBILCOCK: I have here a record of new capital which has been raised year by year in the last four years by mining companies whose shares are listed on the Toronto Stock Exchange; that is, capital which has been raised by the sale of treasury shares. The ordinary dealing on the stock exchange, of course, is where a man who owns stock in a mining company sells to somebody else. In addition to that you have mining companies which are financing their treasuries by the sale of stock to the public through brokers and promoters, and it is possible to determine, by reason of the system which we have at the stock exchange, in regard to the issued capital of a mining company. That is, we require the mining company to list its stock, and we have to keep a record of all the stock which is outstanding. Consequently, if the company issues additional or actual shares we have to be notified of that. We keep an up-to-date check by taking the auditors' reports sent out by the mining companies and see if the amount of capital stock according to our records agrees with what the companies report to their shareholders. We ascertain the amount of money which any particular mining company has received for that stock. In some instances there are outstanding options or underwritings, in other instances the company may have issued rights to its shareholders. In the final analysis this additional money is provided to the mining companies by the shares which are listed on our stock exchange. These are figures for the period under review. In 1943 there was advanced additional capital to the amount of $528,775. That of course was a period of depression in the mining industry so far as gold mining was concerned.

Hon. A. L. BEAUBIEN: Through the sale of stock?

Mr. TREBILCOCK: Through the sale of treasury stock. It does not have anything whatever to do with the sale by a shareholder of his own stock. It is new stock issued by the mining company. The money paid into the treasury in 1944 totalled $4,548,500; in 1945 it was $13,930,826; and for the first four and a half months of the current year, 1946, that is up to May 14 last, the total was $6,807,000. That is all additional money which has been provided by the people of Canada and the United States as a contribution to the capital of these operating companies—some of them prospects, some of them on the verge of production, some of them even in production. This of course applies only to the mining companies whose shares are listed on our exchange; that is, there are only 275 mining companies on the exchange. What the figures would be for the thousands of other mining companies which are engaged in new financing through the sale of treasury stock, of course we are unable to state.

Hon. A. L. Beaubien: Do I understand that a mining company which has so many shares will issue, say, a thousand more shares.

Mr. Trebilcock: Yes.

Hon. A. L. Beaubien: And that issue is sold on the stock exchange and provides that capital?

Mr. Trebilcock: It might be sold on the stock exchange or it might be sold privately.

Hon. A. L. Beaubien: In other words, the $13,000,000 put in in 1945 represents the increased number of shares in the mining companies?

Mr. Trebilcock: That is the increased amount of dollars in the mining companies' treasury.

Hon. A. L. Beaubien: By the sale of the increased number of shares.

Mr. Trebilcock: That is right.

Hon. A. L. Beaubien: Suppose a company had issued 1,000,000 shares, and it wanted new capital and issued another 250,000 shares, that is where that total comes in?

Mr. Trebilcock: Yes, in a period of one year.

Hon. A. L. Beaubien: And that is not necessarily sold on the stock exchange?

Mr. Trebilcock: No.

Hon. Mr. Burchill: Plus any additional companies.

Mr. Trebilcock: Plus any new companies which have not reached the stage where their shares can be listed on the stock exchange, or they do not want to have them listed.

Hon. A. L. Beaubien: But the stock exchange has great value in providing a good deal of the surplus capital needed?

Mr. Trebilcock: We consider that is one of our chief functions, to provide the means for these operating companies to raise the additional capital which they require.

Hon. Mr. McRae: I thought Senator Horner would have some questions to ask. I rather closed down on him the other day when I suggested that the Toronto Stock Exchange was going to present a brief, and that its delegation might be able to give him some information; but he seems to be in a very peaceful mood this morning. I think it is an opportunity to get a little light on the criticism that so many people lose their money or don't get a run for their money in many of these new mining ventures. If Mr. White is agreeable to do so, he might tell the committee what has been done by the province of Ontario particularly and also by any of the other provinces to tighten up their legislation on that sort of thing.

Hon. Mr. Horner: I have received wires away in Saskatchewan advising me to buy this and that mining stock. I may say frankly that I have a very strong suspicion that the brokers who sent me those telegrams were only interested in their commission on the sale of the mining shares. I believe they did not know a damn thing about the mines or anything else; they were only interested in getting a commission on my purchase.

Mr. Trebilcock: Mr. Chairman, of course I cannot quite agree with the last statement of the senator about the attitude of the stock broker, that he is only interested in the commission. I think an obvious answer would be that if a stock broker is only interested in the commissions, and is recommending to his clients the purchase of stocks without knowing whether or not the customers are going to get a run for their money, he is very likely to lose his customers and in a few years be out of business. You don't get a new crop of customers very quickly.

Hon. Mr. HORNER: It is said there is a sucker born every minute.

Mr. TREBILCOCK: There is a saying to that effect, but that is not the experience of the stock brokers. They have on their books customers who have been there year after year, and so long as they give honest advice after investigation and do their best to assure that their customers are going to get a run for their money, they cannot do anything more than that, they cannot look into the future and say whether it will be good or bad.

Hon. A. L. BEAUBIEN: How do you account for those telegrams to customers in every stock exchange?

Mr. TREBILCOCK: I have no information as to who sent out the telegrams. Honourable members of the committee will undoubtedly realize this. From the standpoint of the stock exchange there are two different classes of securities. There is the class listed on the stock exchange, that is, the securities of companies who have met the rigid requirements for listing on the stock exchange. Those requirements in our opinion guarantee the customer is going to get a run for his money. Member firms of the stock exchange get full particulars of all these companies in the statements we send out, and they are in a position to get information and advise their customers. In the bylaws of the stock exchange we prohibit indiscriminate telephoning and telegraphing, and if any member of the stock exchange was sending out to the public generally indiscriminate telegrams advising the purchase or the sale of stock without investigating that stock and being sure of his ground, he would pretty well soon be brought up before the committee and penalized.

Hon. A. L. BEAUBIEN: How do you know he is sure of his ground when he sends out a telegram like that.

Mr. TREBILCOCK: Being sure of his ground means that anybody who buys that stock of the company listed on the stock exchange will get a run for his money. I think these telegrams the honourable senator is referring to have nothing whatever to do with stocks listed on the Toronto Stock Exchange, and have nothing to do with brokers, members of the stock exchanges of Montreal, Toronto, Winnipeg or Vancouver. I think those telegrams are sent out by promoters who are not members of any stock exchange, and could not become members, and they are sent out with regard to one or more of the many thousands of securities that are not listed on the stock exchanges.

Hon. Mr. HORNER: And they send telegrams offering shares in mines already paying divdends. They are certainly listed on your exchange.

Mr. TREBILCOCK: Then if that is the case, and the mines are already paying dividends, I do not see that anyone could take any proper objection to that. Remember, the laws of this country give certain privileges to all classes of citizens. Stock brokers have certain rights like butchers, bakers, and candle-stick makers, with regard to selling their goods or services to the public. In the laws of the various provinces, from Britsh Columbia to Prince Edward Island, there is a prohibiton against any broker telephoning to a person at his residence—not at his office—if that person is not a regular customer or close personal friend, or unless that person has asked the stock broker to send him information. That does not apply to telegrams. The use of telegrams is the right of any business man, and as long as the business man is giving proper advice, I mean as long as he is giving open and free advice to the client, personally I do not see anything wrong in it. Nobody is bound to act on a telegram.

Hon. Mr. HORNER: May I say right now that I would have no objection did I know any of those gentlemen personally. In the one instance I speak of, the way I interpreted the eagerness to sell me the stock, was that the stock was going down and this broker had a friend who was anxious to unload the stock and make some money on it too. I watched that stock and in the next few days after I was urged to buy it immediately it dropped $30. If I knew the man personally, and he knew me well, I would appreciate his wiring me a tip. But these telegraphed tips are very often given to save some friend of the broker and make me or someone else a sucker.

Mr. TREBILCOCK: As I said before, the bylaws of the Toronto Stock Exchange and the other stock exchanges prohibt indiscriminate advice of that nature.

Hon. Mr. HORNER: Pardon me a minute. After all, your business only exists because of the number and volume of shares that pass through your office. We have had a similar situation on the Grain Exchange in Winnipeg. The elevator agents are told they must never encourage anyone to buy or sell wheat. But every transaction means $3 per thousand bushels, and their salary and their promotion in the company depend on the amount of business they can work for their companies on the Grain Exchange. So you are in a similar position to the men on the Grain Exchange, your very existence is conditioned by the volume of business you do.

Hon. Mr. McGEER: Yes. But under the regulations of your exchange and the provision of the Frauds Prevention Act of Ontario your exchange would not exist if it were not organized and conducted upon the basis that you discipline your members; all your brokers are subject to your own code, and they are also all licensed by the province.

Mr. TREBILCOCK: That is correct, and we have a very high code. All stock exchanges in Canada have very high codes. Of course, it is impossible for the governors or managing committee of a stock exchange to act on rumours or things like that. But if any member of the public has been receiving telegrams which are not becoming to a member firm of the stock exchange, and if they have been sent out by a member firm of the stock exchange, a procedure is provided for full investigation, and the practice would be stopped.

Hon. Mr. McGEER: And the membership in the exchange cancelled?

Mr. TREBILCOCK: He might be fined or expelled. The stock exchange cannot step into the offices of all its member firms every day and see what telegrams they are sending out. In regard to the protection which we endeavour to give to the public who deal with our brokers, and indeed to the public who merely buy stock on our exchanges,—I am speaking now only of gold mining stocks—we provide at the time of listing of a mining stock for a very complete voluminous statement, which is sent out to all brokers and to any member of the public who desires it. It is much more comprehensive than the prospectus forms under the Dominion Companies Act or the new form 5 under the new Ontario Securities Act. In this statement we give all the information which we believe essential and desirable for a person to make up his own mind as to whether or not he would want to buy this stock.

Hon. A. L. BEAUBIEN: That is your own preparation?

Mr. TREBILCOCK: That is our own preparation, yes. It is called the Toronto Stock Exchange listing statement. I have here listing statements for the last ten mines which were put on our board up to the middle of last month. It is rather interesting to note that they go pretty well all over the Dominion of Canada. These listing statements give full particulars regarding who are identified with the company and the capacity of the officers and directors, and a record of all the shares issued to the public, and so on, particulars of the assets, other than cash and shares sold for the purpose of raising capital, all outstanding agreements regarding any unissued treasury shares, that is, any prospective sale in the future by existing underwriting or option arrangements. There are also full particulars regarding the properties and complete engineer's reports with regard to the mining of the properties. This is accompanied by a certified balance sheet and statement of developing and operating costs, and so on.

Hon. Mr. McGeer: I understand the Senate is adjourning early this afternoon, and that Senator Crerar has arranged for a specialist from the Department of Mines and Resources to attend here on short notice. If possible, we should arrange to meet this afternoon.

The Chairman: There are two or three other members of the delegation. Do they wish to be heard?

Mr. Trebilcock: No, Mr. Chairman.

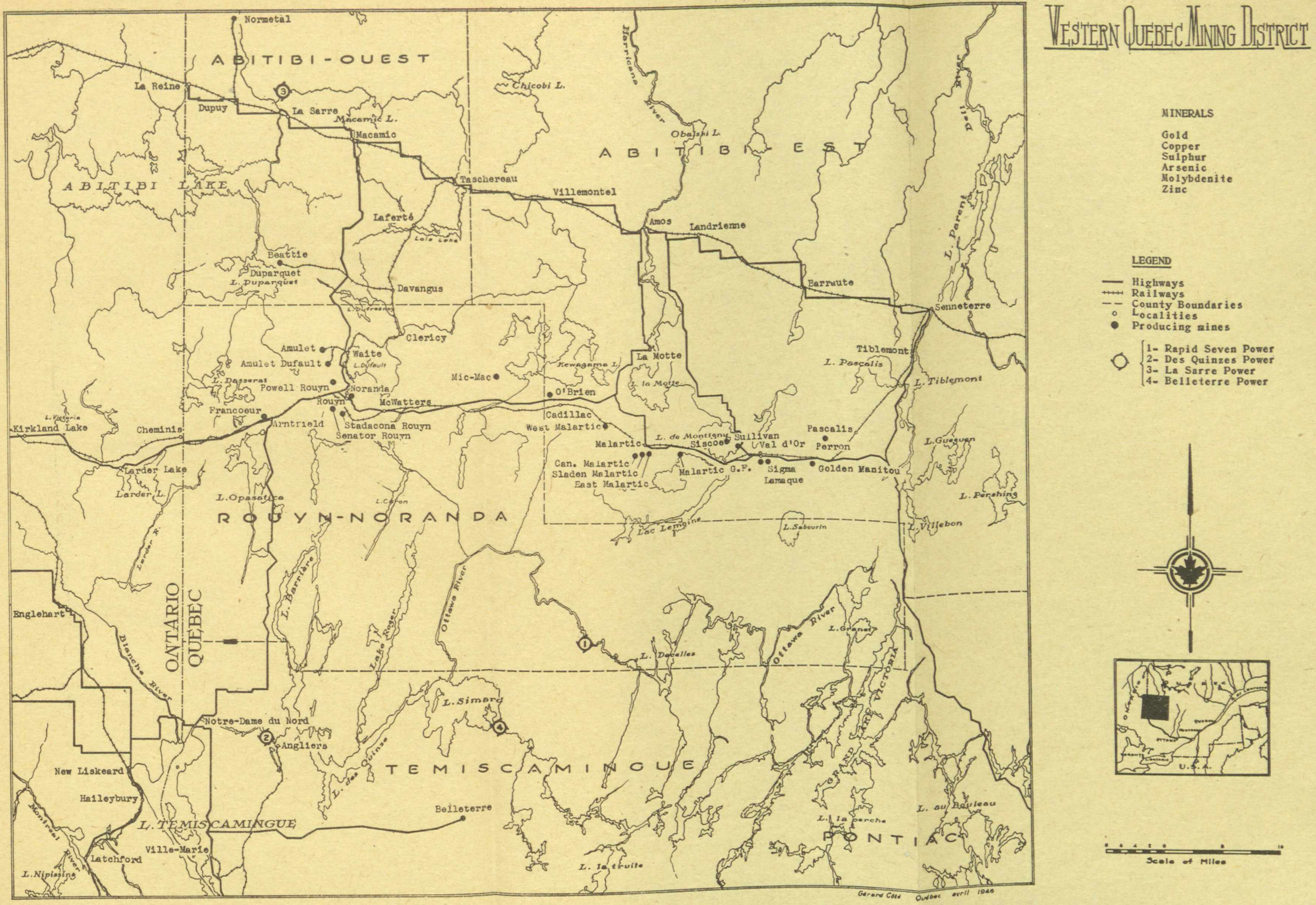
The Chairman: Is there anything further?

Mr. Trebilcock: In answer to the query of Senator McGeer, who spoke about listing on the exchange, just before I left Toronto I looked up the records with respect to the listing applications which have been acted upon so far this year up to the end of April. I am referring to mining companies only; I did not take any of the metals or industrials. We had forty-six applications for listing in the first four months of this year. We granted twenty-five, we turned down twenty-one. At the last meeting of the listing committee, which was held a week ago last Friday, we had four mining applications for listing. We granted one, we turned down three. Our requirements are pretty rigid.

I should like in conclusion, Mr. Chairman, to thank you and the members of the committee for the attentive hearing you have given us today. It is a real pleasure to appear before a committee of the Senate.

The Chairman: On behalf of the committee I wish to thank the members of the Toronto Stock Exchange who have given us the benefit of their brief.

The committee adjourned to meet again at 10.30 tomorrow morning.



WESTERN QUEBEC MINING DISTRICT
MINERALS
Gold
Copper
Sulphur
Arsenic
Molybdenite
Zinc
LEGEND
Highways
Railways
County Boundaries
Localities
Producing mines
1- Rapid Seven Power
2- Des Quinzes Power
3- La Sarre Power
4- Belleterre Power
Scale of Miles
ABITIBI-OUEST
ABITIBI-EST
ROUYN-NORANDA
TEMISCAMINGUE
PONTIAC
ONTARIO
QUEBEC
Normetal
La Reine
Dupuy
La Sarre
Macamic L.
Macamic
Taschereau
Villemontel
Amos
Landrienne
Barraute
Senneterre
Tiblemont
Chicobi L.
Harricana River
Obalski L.
Bell River
L. Parent
ABITIBI LAKE
Laferté
Lois Lake
Beattie
Duparquet
L. Duparquet
Davangus
L. Dufresnoy
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Amulet
Amulet Dufault
Waite
L. Dufault
L. Dasserat
Powell Rouyn
Noranda
Rouyn
McWatters
Mic-Mac
Kewagama L.
O'Brien
Cadillac
West Malartic
La Motte
L. la Motte
L. Pascalis
L. Tiblemont
Francoeur
Arntfield
Stadacona Rouyn
Senator Rouyn
L. Victoria
Kirkland Lake
Cheminis
Larder Lake
Larder L.
Larder R.
Malartic
L. de Montigny
Siscoe
Sullivan
Val d'Or
Pascalis
Perron
Can. Malartic
Sladen Malartic
East Malartic
Malartic G.F.
Sigma
Lamaque
Golden Manitou
L. Guéguen
L. Pershing
L. Opasatica
L. Caron
Lac Lemoine
L. Sabourin
L. Villebon
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Lake Roger
Ottawa River
Englehart
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L. Granet
GRAND LAKE VICTORIA
L. Simard
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Angliers
L. des Quinze
New Liskeard
Haileybury
L. TEMISCAMINGUE
Belleterre
Montreal River
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1946 SESSION

THE SENATE OF CANADA

PROCEEDINGS

OF THE

STANDING COMMITTEE

ON

NATURAL RESOURCES

ON

THE ECONOMIC VALUE OF METALLIFEROUS MINES IN CANADA

No. 3

WEDNESDAY, MAY 22, 1946

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WITNESSES:

Mr. Sidney Norman, Special Writer, Toronto *Globe and Mail.*

Mr. A. Hawkey, Chemist, Royal Canadian Mint.

OTTAWA
EDMOND CLOUTIER
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

MINUTES OF PROCEEDINGS

WEDNESDAY, 22nd May, 1946.

Pursuant to adjournment and notice the Standing Committee on Natural Resources met this day at 10.30 a.m.

Present: The Honourable Senators: Donnelly—Chairman, Beaubien *(St. Jean Baptiste)*, Burchill, Crerar, Duffus, Ferland, Horner, Hurtubise, Jones, Kinley, McGeer, McIntyre, McRae, Paterson, Taylor and White.—16.

In attendance: The official reporters of the Senate.

The Committee resumed consideration of the order of reference of the 2nd May, 1946, instructing the Committee to examine into the economic value of metalliferous mines in Canada.

A brief by Mid-West Metal Mining Association was read by Mr. F. D. Shepherd, Secretary-Treasurer of the Association, who also answered questions asked by members of the Committee.

Mr. Sidney Norman, special writer for the Toronto *Globe and Mail,* was heard and answered questions asked by members of the Committee.

Mr. A. W. Hawkey, Chemist, Royal Canadian Mint, was heard on the question of overages in gold refining.

At 1.10 p.m., the Committee adjourned until Tuesday, 28th May instant, at 10.30 a.m.

Attest

A. H. HINDS,
Chief Clerk of Committees.

MINUTES OF EVIDENCE

THE SENATE,

OTTAWA, Wednesday, May 22, 1946.

The Standing Committee on Natural Resources instructed to examine into the economic value of metalliferous mines in Canada resumed this day at 10.30 a.m.

Hon. Mr. Donnelly in the Chair.

The CHAIRMAN: Gentlemen, we have with us this morning Mr. F. D. Shepherd, who represents the Mid-West Metal Mining Association. Mr. Shepherd will now present his brief on behalf of his association.

Mr. F. D. SHEPHERD: It is desired to acknowledge with thanks the opportunity that has been afforded the Mid-West Metal Mining Association to present a submission to your Committee on behalf of the metal mining industry in the provinces of Manitoba and Saskatchewan.

In offering a brief in support of the metal mining industry of mid-western Canada, it has not been considered desirable to present a detailed and lengthy discussion concerning the many various factors and considerations influencing and pre-requisite to its well-being. Rather, it is assumed that many of the items of submission, important though they be, will require only to be indicated to be received with an appreciative understanding. Many factual and statistical data are readily available, and in many instances, may be obtained from the excellent statistical services of various branches of the Federal and Provincial Governments. Full co-operation is offered should further elaboration of any particular phase of the problems of the industry be desired.

Our brief emphasizes the need for a sympathetic understanding of the problems confronting the metal mining industry of the Dominion by the taxing authorities of Federal and Provincial Governments and by the Canadian public at large. It is maintained that while all Canadian industry stands in need to-day of reform in taxation and a clear definition of tax policy, there is inherent to the mining industry, which survives by means of the exploitation of wasting assets, a particularly strong case for tax reformation.

It is submitted that the metal mining industry of Canada could operate with greater stability under the authority of a National Labour Code.

Recommendations are also included dealing with the needs of the industry insofar as governmental services are concerned.

The items of submission contained in this brief have been assembled through the exchange of opinions and by the collaboration of all members of the Mid-West Metal Mining Association.

I may say that the members of the association include producing mines in the mid-west such as Hudson Bay Mining Company, Sherritt Gordon, San Antonio, Prospective Producers, Howe Sound Exploration Company, and other exploration companies which have a record as producers.

It is the sincere opinion of this Association that, given the assurance of a reasonable return on risk and investment and a sympathetic attitude on the part of governments when framing policies affecting the industry, the metal mining industry of Canada is destined to contribute in ever increasing measure to the nation's wealth and to its progressive expansion and development.

The CHAIRMAN: I may say, gentlemen, that Mr. Shepherd has intimated to me that he has no objection to answering questions at any stage in the presentation of his brief.

Hon. Mr. KINLEY: Mr. Shepherd, what do you mean by "Labour Code"?

Mr. SHEPHERD: The labour code as it now exists—P.C. 1003.

Hon. Mr. KINLEY: Is that a code?

Mr. SHEPHERD: As far as the industry is concerned, the labour problems at the present time are referred to the National War Labour Board.

Hon. Mr. KINLEY: What would be your object, to prevent strikes?

Mr. SHEPHERD: No, more to secure a uniformity of operation for the industry. That point is brought out in a little more detail later on.

Hon. Mr. KINLEY: Are you an industry under the labour code or are you a regional industry?

Mr. SHEPHERD: At the present time we are national, but the control is being returned to the provinces.

Hon. Mr. KINLEY: There is no indication of that move yet?

Mr. SHEPHERD: It is our understanding that such is the case.

Hon. Mr. KINLEY: You think it might be, but there is no legislation to return it to the provinces. I take it you do not wish it to be returned to the provinces?

Mr. SHEPHERD: We do not want it returned to the provinces.

Hon. Mr. KINLEY: You want to retain it under the national board?

Mr. SHEPHERD: Yes.

Hon. Mr. KINLEY: Is that the feeling of all the little mines in the smaller places?

Mr. SHEPHERD: I would say the effect on the little mines is greater than on the larger ones.

Hon. Mr. KINLEY: The National Labour Board would have the higher rate, and the little mines in the rural districts might find it difficult to pay it.

Mr. SHEPHERD: Well, mines, as I understand it, more or less are rural in the sense that they are so isolated, and mine labour, particularly in the metal mines, moves to the area where the highest wages are paid.

Hon. Mr. KINLEY: And where there is metal?

Mr. SHEPHERD: Where there is the greatest ability of operation.

Hon. Mr. KINLEY: I take it you represent the big organization—a combined organization.

Mr. SHEPHERD: Compared to the small non-productive operations, I would say we could be classed as representing the big organizations, but every small mine aspires to become a large one.

Hon. Mr. KINLEY: But you have to give him a chance.

Hon. Mr. PATERSON: Are the Yellowknife mines in your association?

Mr. SHEPHERD: No, they are not in our association; and so far as I understand the Yellowknife mines have not formed an association of their own.

The metal mining industry of mid-western Canada has developed during the past two decades as a normal outgrowth of the successes attending the exploration and development of mineral deposits in the northeastern and central portions of Canada. Metallic production whether it be of gold and silver or of base metal has been won from rock formations of Precambrian age which occur as a broad, horse-shoe shaped, low-lying plateau extending from Labrador through Quebec and nothern Ontario, northern Manitoba and Saskatchewan to the Northwest Territories and the Arctic islands. The ore deposits mined in this broad area, while differing in some respects, possess, as a rule, great similarity, hence mining costs and mining and metallurgical methods used over the area are to a large degree comparable. Physical difficulties confronting those engaged in exploration are similar and transportation problems have but one variable factor, that of distance. Thus it may be asserted that the sympathetic understanding of administrative authority, whether it be Federal or Provincial in scope, is required, in like degree, in all parts of the Dominion where metal mining is being undertaken or contemplated.

The development of agriculture, mining and forestry in Canada has above all been the fundamental reason for the sound expansion and growth of the Dominion. At the present time mining ranks second to agriculture as a source of national wealth. The agricultural settlement of the country has witnessed its major period of development reviewed from present standards. Unlike that of agriculture, the growth of the mining industry is not restricted by climatic conditions and is destined therefore to play an all important part in the northward expansion of Canada. The future of the mineral industry is nevertheless very difficult to forecast. It draws its products from a region encompassing fully two-thirds of the Dominion which has been only partially mapped and parts of which have been virtually unexplored. The potentialities of the region favourable to the occurrence of metalliferous deposits are also difficult to assess. There is no royal road to success in mining development. Discovery and ultimate production of a mine are frequently separated by years of painstaking endeavour and are fraught with uncertainty. It is shown that only a relatively small percentage of the Precambrian area of Canada is geologically favourable to the occurrence of ore deposits. I would direct your attention to the accompanying map, on which I have indicated in a pink tint those known areas in mid-western Canada, exclusive of the British Columbia region, to which the prospector would turn his attention if he were going to look for a new mine. Not all of the Precambrian shield is favourable to the occurrence of mineral deposits. It has been said that the geologist finds the hay-stack and that the prospector's job is to find the needle. The "hay-stacks" are indicated in pink on the map.

The more readily accessible areas and easily prospected exposures of rock have received already the attention of prospectors and exploration companies. This condition has placed upon the industry greatly increased exploration costs and is ever taxing the scientific ingenuity of technical personnel charged with the responsibility of adding to the country's rapidly diminishing ore reserves. Since it is recognized that 95 per cent of Canada's mineral production derives from ore bodies discovered prior to 1930 despite the accelerated exploratory investigation undertaken since that date, it is also apparent that the cost of finding a mine has greatly increased. Costly drilling and geophysical programs must be undertaken beneath lake, muskeg and heavy overburden to probe for the possible location of mineral deposits.

Historical records in many parts of the world reveal that the development and ultimate stable settlement of many areas received their initial impetus from mineral discoveries. The discovery of new mines results in the production of new wealth of a tangible nature and the foreign credit accruing to a developing and youthful country through the sale and later fabrication of the primary products of mines is one of the most important aids to sound national growth. The future growth of this Dominion therefore depends to a large degree upon the development of stable primary industries and of these, the mining industry is one of the most important and necessary ore replacements are becoming much more difficult and costly to achieve.

In addition to providing new wealth, opening up new areas and establishing new communities, there are dependent upon the Canadian mining industry, many other industries which derive no small measure of their maintenance and revenue through the services that they provide for the mining industry. The transportation systems alone, depend for much of their revenue upon the movement of supplies into and mineral products out of the mining districts of Canada.

The gold mining industry of Canada is emerging from a period of relatively low production, occasioned by heavy wartime demands upon its mine crews with consequent reduction of essential development work. High tax rates have however, been applied to profits that have been made at the expense of sound mining practice. It is, however, at the present time, witnessing a period of renewed activity in all its many phases and new gold mines have been discovered during and since the war as a result of intensive and costly exploration methods. It is recommended that every encouragement be given to the continued search for and production of gold from the mineral areas of Canada. It is to the country's advantage to have a strong gold mining industry as an economic bulwark against any possible depression that may follow in the wake of the past conflict. It is generally agreed that the gold mining industry of Canada was one of the few stable enterprises which persisted and sustained, in no small degree, the national economy of the Dominion during the depression of the thirties.

It is considered highly desirable and to be a matter of national interest that the gold mining industry of the Dominion be encouraged and sustained in order that there be available at all times, particularly during periods of world-wide depression, an adequate supply of gold for use as foreign exchange, thus enabling the Dominion to purchase, at suitable price levels, commodities not capable of being produced in Canada, but which are necessary to maintain our living standard.

The base metal industry on the other hand requires time to put its operations into a normal condition following the excessively heavy demands occasioned by wartime production. The reserves of base metal in the Dominion have been seriously depleted and it cannot be too strongly stressed that replacements for this lost ore have not been forthcoming, despite intensified prospecting during the past twenty-five years. While there is an extraordinary demand for increased quantities of base metals to-day, the industry must plan for the future when foreign competition is more likely to increase than diminish. In order to encourage and develop the future base metal mining industry of Canada, so essential from a national point of view, incentive of a concrete nature must be provided by sympathetic governmental policies towards the mines which are at the present time in operation.

Due to the great demands of wartime production, Canadian mines drew heavily upon their reserves and because of the shortage of mine labour, development work fell badly in arrears. It is now essential that all mines be restored to a normal physical condition in order to meet the increasingly large demands of world-wide reconstruction programs. It is therefore submitted that because of the degree to which mining operations can contribute to the rehabilitation of veterans and workers from war industries, due recognition of this be made in the allocation of equipment and material necessary for increased production and for the housing of employees and their families.

All Canadian industry is at the present time being encouraged to attain maximum productivity in order that famine and want may be alleviated in the war-torn countries of the world. Maximum productivity whether it be agricultural, mining or manufacturing, is only possible if there be guaranteed to the producer stability of operating conditions and a reasonable return from the effort and capital expended. Such a guarantee implies governmental assurance of fair taxation and well-balanced price and wage control together with stability of labour relations.

HISTORICAL REVIEW

While there are records of the formation of mining companies in Manitoba as long ago as 1883, the activity was negligible within Manitoba and Saskatchewan and resulted mainly from an extension of the developments in the adjacent Lake of the Woods region in Ontario. Mining in Manitoba really began with the discovery of gold in 1911 at Rice Lake on what is now the San Antonio Gold Mines Limited property. The war of 1914-1918 impeded development but in these years the Rex gold vein at Herb Lake and the Flin Flon and Mandy copper-zinc-gold orebodies at Schist Lake in northern Manitoba were found. Resumption of prospecting after the war resulted in the discovery of the Sherritt Gordon copper-zinc orebody and of the Central Manitoba gold vein system in 1924. There were no more important discoveries until 1931, when gold was found at Island Lake and in 1932 at God's Lake. Renewed development in 1933 indicated orebodies in the Gunnar and Wylie Dominion veins. In 1934 the Box property, operated for four years by the Consolidated Mining & Smelting Company, Limited was discovered at what is now the town of Goldfields, Lake Athabasca, Saskatchewan. Small amounts of gold have been produced at intervals from minor operations in Saskatchewan, mainly in the Beaver Lake area adjacent to Flin Flon. After 1934, no discovery of importance resulted until 1941 when a gold deposit at Snow Lake, Manitoba was taken under option and explored by the Howe Sound Exploration Company, Limited. In 1942, a discovery was made of large reserves of chromite, in the Bird River region, southeastern Manitoba. Although rather low-grade, these last two discoveries are most encouraging since they are proof that prizes exist for intelligent and energetic prospecting, especially as they have been discovered in districts which had had considerable scrutiny.

Production has lagged along behind discovery as a rule. While the Mandy produced approximately $2,000,000 worth of high grade ore up to 1920, there was no other production excepting about nine thousand ounces of gold from scattered sources until the production period of the more important properties listed below:—

Company	Productive Period	Production to December 31, 1945
Central Manitoba	1927-1937	$ 4,118,416
Hudson Bay[1]	1930 continuing	196,270,378
Sherritt Gordon	1931-32, 1937 continuing	34,840,097
San Antonio	1931 continuing	17,492,152
God's Lake	1935-1943	5,398,630
Gunnar	1936-1942	3,719,942
Laguna	1936-1939	1,872,819
Gurney	1937-1939	921,819
Box Mine[2]	1939-1942	3,831,587

[1] Including Emergency Metals Limited.
[2] Consolidated Mining & Smelting Company Limited.

The Emergency Metals Limited operation, which is included in the Hudson Bay figure was a wartime operation and has since been suspended.

Hon. A. L. Beaubien: Why did God's Lake close down in 1943?

Mr. Shepherd: They ran out of ore.

Hon. Mr. Horner: Have they not discovered another ore body?

Mr. Shepherd: They are interested in operations in the Herb Lake area. They are still an active company, although they are not producing.

Hon. A. L. Beaubien: Gunnar closed down in 1942 for the same reason?

Mr. Shepherd: For the same reason. I might say that both these mines have maintained their treasuries in good condition and are carrying on active campaigns. That is quite a customary practice.

Hon. Mr. McRae: Did the last three mines mentioned in that list run out of ore too?

Mr. Shepherd: The Laguna and Gurney both ran out of ore. There is some exceptional marginal ore at the Box property, but under present conditions they cannot operate it.

Hon. A. L. BEAUBIEN: In other words, there are only three mines in Manitoba that are continuing operations?

Mr. SHEPHERD: At the present time, yes.

Hon. Mr. PATERSON: What do you mean by "present conditions," labour?

Mr. SHEPHERD: The grade of ore, in the first place, made the operation very questionable, with the rising costs. The company does not consider the operation would be justified until costs, both of supplies and labour, are lower.

Hon. Mr. KINLEY: What do you mean by marginal ore?

Mr. SHEPHERD: In mining an ore deposit you try to take out as much of the mineralized rock as is economic, but it sometimes happens that a change in the metallurgical process or a change in the price of the product will raise what was formerly waste rock into the category of ore.

Hon. Mr. CRERAR: It sometimes happens too that if your costs increase, ore is turned into waste rock. If, for instance, the taxes levied on a mine amount to, say, $1 a ton, then quite obviously that turns what would otherwise be ore back into rock.

Mr. SHEPHERD: The brief continues:

There have been other producers, but the total production from them is less than $1,000,000. At the present time only three producers remain, Hudson Bay, San Antonio and Sherritt-Gordon, the others being worked out, while the life of the last named appears to be limited to only a few years. One large prospective gold producer is undergoing development and equipment at the present time. Several other small scale operations are now in the development or exploration stage.

TAXATION

The discovery, development and conservation of mineral resources depend upon the combination of intelligent effort and adequate capital investment. We believe that many more deposits in Canada await discovery, although the finding will be more difficult than in the past.

Hon. Mr. DUFFUS: Just why?

Mr. SHEPHERD: The reason is that in the more accessible areas where rock outcroppings are easily examined by the prospector, the obvious discoveries have been gone over. There are very few of our favourable prospecting belts that you can go into—and I have gone into a lot of them—where you will not find evidence of the prospector having been. Now the mining companies must resort to geological methods in trying to find the possible location of ore bodies under muskeg, shall we say, or under a lake or heavy overburden. So instead of exploring by surface trenches as the prospector did, the companies have to undertake diamond drilling campaigns by what we speak of as geophysical methods of exploration. They try to determine the peculiarity in the magnetic permeability of the rock, and having obtained a clue they go on to explore with the diamond drill. I am just speaking roughly, but these methods are being more and more used by the exploration companies to-day in contrast to just examining the finds that have already been made by prospectors. These modern methods are of course very much more expensive.

Hon. Mr. HORNER: On the other hand, the engineers of to-day, with their higher training and better machinery, have a considerable advantage over the old-time prospector?

Mr. SHEPHERD: There is a saying that even the mining engineer cannot see much farther than the end of his pick. All the training in the world will not enable a prospector to see what is below a lake or muskeg, so the costly and difficult method of finding out by diamond drilling has to be employed.

Mining technique, from the search for new ore to the production of metals and mineral products of first quality, is of high order, while the efficiency of Canadian mine management and labour is widely recognized. Ample capital is available for investment where the returns are in reasonable relation to the risks involved, but the trend of profits in this period of rising costs and high level of taxation is obscure.

The effects of rising costs due to increased wages and cost of supplies are dealt with elsewhere in this submission and it is proposed to consider here the impact of taxation. Governments must have money to pay for the services they provide. In the beginning, the services were only concerned with the protection of life and property and gradually expanded to include education, the fostering of industry, through provision of transportation, research, etc., to the protection of health and now to a vast social security program, the cost of which exceeds all else. The question arises as to how much the country can afford, for the money has to come now or later from the earnings of industry or individuals. The laudable objective of the social measures is the improvement of the standard of living of the classes with low incomes. This improvement could be attained by increased productivity by these classes in industry (excluding the aged, infirm and sick, of course) and in most instances the amount of improvement would be in greater proportion than the effort applied. Instead, they are obtaining improved standard of living without effort, the cost borne by industry and the classes of better income with no return. We fear that the political repercussions which would attend any attempt to abandon these measures preclude any likelihood of that happening and it can only be hoped they will not be extended unwisely.

The mining industry which we represent is ready to pay its share of taxation, the cost of Governmental services. It believes in an able, well-paid Civil Service, in the maintenance of adequate services of defence, health, education, promotion of industry, the full discharge of obligations to the demobilized Armed Forces and in a reasonable scheme of social services providing generously for the aged, infirm and helpless, but doubts the wisdom of providing "gingerbread"—we have used the term "gingerbread" for the lack of a better term—in the form of social benefits to those quite able to look after themselves.

Hon. Mr. HORNER: I agree with you entirely. I would like to cite a case here which I think lessens the chances of men going out to work in the mines: That is the baby bonus—which I think is entirely unnecessary. It has raised the taxes on industry. I know many cases where men have four or five little children, and are living off that, and are producing nothing for the country. They would otherwise go out and work for the mines. I am in sympathy with that part of your brief.

Mr. SHEPHERD: Thank you. The first consideration in taxation is the amount of money the Government requires. We concede that the service mentioned require a great deal and asks only for true economy in the form of elimination of duplication, over-staffing and services that have outlived their usefulness. Economy is not the chief factor in reducing the tax load on corporation or individual. The most important factor is greater national production and the proposals of taxation changes which follow are made with that objective in mind.

Increased mineral production may come through greater demand abroad or at home, through lowered costs or through the expansion of known deposits or development of new. The first depends largely on trade conditions outside of Canada, since a large proportion, both of primary and manufactured Canadian production is sold abroad, and the mineral industry relies on the Government's best efforts to remove all possible trade barriers. Since this is a period of rising wages and prices, reduced production costs, which will enable the capture of a larger proportion of the world's metal and mineral markets, must depend upon technological advances, reduction of taxes or new capital investment. The standard of efficiency in metal production practice is high, the margin left for improvement is small and the advance slow. From time to time there have been major steps in technological achievement which led to marked reductions in operating costs. At present there is nothing of such nature in sight and new economies appear to be limited to paring of costs here and there.

Taxes are of two types, those which add to the cost of production whether a profit is made or not, and those which take a slice of the profits. The first includes the following existing taxes paid directly by mining companies in the Central Canada region. The heaviest imposts have been the sales and gasoline taxes and the Unemployment Insurance levy.

Dominion

Sales Tax
Customs Duty
Unemployment Insurance
War Exchange Tax.

Provincial

Sales or Consumption Tax
Mineral and other Land Fees
Gasoline Tax
Licences

Hon. Mr. BEAUBIEN: Do licences all come in under provincial taxes?

Mr. SHEPHERD: Yes. They are under the provincial heading. It shows the various taxes which go into production costs.

Municipal

Property Tax
School Tax
Business Tax

Moreover, in addition to the costs of materials and services used by the company in its production operation, there is hidden not only a similar lot of taxes to the above paid by the suppliers of materials and services but also part at least of the income tax paid by the suppliers and their employees. In Manitoba it was found that average monthly mining wages increased from $164 to $205 between 1939 and 1943.

Hon. Mr. HORNER: Are those the wage increases for the year?

Mr. SHEPHERD: They are the average monthly mine wages increase. The monthly mine wages from 1939 to 1943 increased from $164 to $205, enough to pay not only the basic cost of living but also the increase in personal income tax. I may say, gentlemen, in the case of marginal ores, in most operations there is very little chance of going down to get it. It can only be handled economically by a staff of operators.

Hon. Mr. BEAUBIEN: Do you consider much marginal ore has been left?

Mr. SHEPHERD: It is difficult to answer that question. The definition of marginal ore varies a great deal. Any gold mine that has operated on ore at $20.67 per ounce has left a great deal of marginal ore. Much of this marginal ore is recoverable at the price of $38.50. As the price changes, the marginal ore changes with it.

Hon. Mr. HORNER: The increase in the cost of taxes and the cost of operation pretty well balances, the same as when gold was twenty dollars and something.

Mr. SHEPHERD: I have no figures on that comparison. I don't think it would.

Hon. Mr. BEAUBIEN: Is there much marginal ore being processed since the price of gold came up?

Mr. SHEPHERD: I would say where mines had an early history, and were working on the $20.67 per ounce gold standard, they at that time left much marginal ore which could be processed at the new price.

Hon. Mr. HORNER: To put it another way, a lot of the operating mines are processing ore at the new price which they would not process at the smaller price?

Mr. SHEPHERD: Oh, most certainly.

This occurred in greater or lesser degree in other industries and wherever possible the expense was added to the cost of the product or service. Where the prices of products, such as metals or minerals, are set in the world markets, the added cost cannot be passed on. The effect on mines is to increase the cost of production, reducing the ability to compete and forcing the abandonment of marginal ore from the ore reserves, frequently without hope of future recovery.

The second type includes the income and excess profits taxes and certain Provincial royalties. The effect of income taxes on cost of production has been mentioned above. The main effect of profits taxes is that they take so large a portion of the profits that investment in expansion of operations or in new enterprises is discouraged. This is all the more important in mining where the capital risk element is so high. In addition to the ordinary risks undertaken by the average industrial undertakings, the miner has to accept the risks peculiar to mining, such as the variability of orebodies in occurrence, size, shape and mineral content; in workability as affected by the strength of ore and enclosing wall rocks, increasing depth, rising rock temperature, influx of water; in metallurgical treatment. These hazards exist after the orebody is found. Previous to that there has been incurred the greatest risk when money was spent to find it.

Much evidence has already been given to prove the high capital risk and the principle of mining investment has been that after many failures a successful mining enterprise will emerge which will not only repay the capital invested in its development and equipment but also that spent on the failures plus a profit in keeping with the risks that were taken. This demands a reasonable treatment of the successful enterprise by the various taxing authorities. It means fair understanding of what portion of the earnings is return of capital, as just outlined, and what is profit. Too often are the profits of prosperous mines criticized by laymen without adequate or even any knowledge of mining investment and the risks involved, while the small number of such mines makes them easy game for a certain type of legislator seeking to impose new taxes.

The heavy burden of taxes on all industry borne cheerfully enough during the war and immediate postwar demobilization period must be eased. In combination with the Dominion Government's cheap money policy, it has reduced the return on investment to very low levels. In the hazardous field of mining investment, the effect has been to make capital gains the incentive rather than dividends. With certain other factors the result has been a speculative boom in mining shares which has undoubtedly provided a great deal of money for mine exploration but it is not a healthy condition and must lead to a slump and serious losses. It does not provide the large sum needed for development and equipment. They will only be provided if there is a reasonable prospect of capital return plus a profit. That is the kind of investment money mining depends upon over the long term, not what comes out of stock market hysteria. Under present conditions, reduction of taxation is the major factor of encouragement of investment leading to greater production, not only of minerals but all kinds of goods.

Therefore we beg consideration of the following:—

1. The reduction of taxes which enter into production costs especially the further reduction of the sales tax, as an aid to the Canadian producer competing in foreign markets and to the utilization of marginal ore.
2. The removal of the excess profits tax on corporation earnings as an encouragement to new investment and a curb to bad industrial housekeeping.

Hon. Mr. BEAUBIEN: May I ask a question about sales tax, Mr. Chairman? Can you not export metals outside of gold without sales tax?

Mr. SHEPHERD: We are speaking here of the tax that goes into production cost, such as materials and supplies going into the mine. A great deal has been done to remove that, but there is still considerable uncertainty. For example, in the case of hoist ropes, if they are used to hoist men they are taxable. Many small mines have to use the same cage for both men and ore.

3. The reduction of corporation income tax and strict limitation of Provincial royalties based on income as encouragement to new investment.
4. The removal of double taxation on corporation earnings.
5. Allowance of flexibility of capital write-offs so that the amounts charged off shall not exceed the operating profit.
6. Allowance of averaging earnings over five years instead of three years as as present.

We deeply regret the recent failure of the Dominion-Provincial Conference on taxation. The inability of Federal and Provincial authorities to agree on matters pertaining to a sound fiscal policy can only result in industry being saddled with uncoordinated and competitive double taxation.

LABOUR

In considering the ultimate effect of increased labour costs on the Canadian metal mining industry the viewpoint of the base metal mining industry may vary in certain aspects from that of the gold mining industry.

May I interpose a remark here? I am referring in the brief to the viewpoint of members of our association; I am not speaking on behalf of the industry generally in Canada. It may be in complete agreement, but we have furnished copies of the brief to the industry, and we have received no comment. In this brief we are presenting only the viewpoint of the members of our association.

On broader issues, however, the industry as a whole is in more or less complete agreement. In the instance of the base metal mines, we are dealing with an industry whose products are subject to the fundamental laws of supply and demand, artificial controls having been removed. Their products are, for the most part, able to find their way into world markets. As increased labour costs affect the manufacturing industries in the major countries of the world, it will not be possible to maintain low prices for consumer goods. The effect of this will inevitably be to increase the prices obtained for primary base metal products. We have thus a reasonable expectation of increased base metal prices subject to foreign competition from foreign producers but it cannot be stressed too strongly that the factors responsible for the increase, originate beyond the confines of Canada and are almost without exception, not subject to Canadian control. Increased prices for base metal will to a reasonable degree, permit the Canadian producer to keep his operation more or less in line with world economic trends.

The above conditions do not apply with equal force to the gold mining industry which may be faced with increased labour and supply costs with no increase in the price of its product. During periods of depression, low employment levels and falling prices, attempts have been made to stabilize national economies by increasing the price of gold. As these conditions do not appear likely to develop for some time at least, due to accumulated buying power and increased demand for consumer goods, the gold mine operator faces the prospect of increased costs with no increase in the price of his product. These increased costs may in some instances reduce the profitable margin of his ore as well as the quantity of ore that may be mined to the extent that some mines may cease entirely to be economic undertakings. All mines however, will be confronted with an inevitable loss of ore reserves.

The need for stabilization of mine wages under a national labor code is as urgent now as it was during the war years just past. If this stabilization is not brought about and wages are allowed to increase within a concomitant increase in unit production, industry, government and ultimately the people of Canada themselves will suffer grievous loss as a result of the excessive reduction of ore bodies and the resultant loss of earnings and wages and the Federal and Provincial tax revenues derived from these.

Because of products of the base metal mines are for the most part disposed of outside of the Dominion of Canada, they must meet competition from metals entering consumer centres from all parts of the world and the problem of the base metal industry is of international scope. Therefore, the operations of the industry should, as far as a labor control is concerned, be governed by a national rather than by a provincial code in order that individual base metal mines may be guaranteed against irregular local conditions which would place one Canadian mine at an operating disadvantage to another.

Hon. Mr. HORNER: What is meant by "an operating disadvantage to another"? Do you mean the wage scale?

Mr. SHEPHERD: Yes, a different wage scale would increase the cost of one mine operating in one part of Canada, and put it out of line with a similar mine operating in another part of the country, and competing in the same world market.

In the particular instance of the operation of the Hudson Bay Mining & Smelting Company, Limited, at Flin Flon, it should be pointed out that part of the ore-body lies in the province of Manitoba and part lies in the province of Saskatchewan. In addition, the metallurgical plants of the operation lie astride the interprovincial boundary with workmen employed at the mine on both sides of the boundary. Therefore, it is apparent that labour relations are affected by legislation enacted in either province as well as any that may be exercised by the Dominion.

This condition, while it may be deemed to be an extreme case, actually exists and the company in its dealings must ultimately extend to all employees, those concessions occasioned by the most politically expedient or generous governmental legislation. This will have the final affect of setting the standard for all mines operating in the area, inasmuch as the operation in question is by far the largest. The necessity of wage agreements being negotiated, subject to Federal appeal and control is clearly indicated. It is also believed not without reason, that Labour itself would prefer to operate under the uniformity of Federal administration.

It should be pointed out that wage increases paid by the mineral industry of Canada, have in many instances, not been made possible merely by increased prices received for metal nor by appreciable improvements in the grade of ore mined. Indeed, much of the increased earnings of a mine which have been passed along to employees in the form of higher wages has been made possible by technical and mechanical improvements with which the average workman has had little or nothing to do. The development of differential flotation in itself has made possible the extraction of millions of tons of ore from Canadian mineral deposits that would have been too complex had the principle of flotation not been applied to specific types of ore by the research staffs of mining companies. Again, large tonnages of ore have been mined at low cost during the war years due to the application of blast-hole diamond-drilling methods which have been developed to a high degree of perfection by the technical staffs of Canadian mines. These and like improvements have reduced the cost of mining and milling to a point where further improvements cannot result in greatly increased earnings as minimum production costs are rapidly being approached and therefore the scope and effectiveness of improvements in technique are correspondingly reduced. From the viewpoint of the operator, future wage increases must depend largely upon increased production on the part of the employee.

Hon. Mr. BEAUBIEN: Would you please explain what you mean by the words "differential flotation"?

Mr. SHEPHERD: Take for example the Hudson Bay Mining and Smelting Company; that mine may be said to have an ore body that was rendered workable only by the development of this special process and its application to a particular type of ore. That mine contains copper, zinc, gold, silver, cadmium, tellurium and selenium; the ore is very complex. It is made up of a number of different minerals intimately associated, so that in order to separate the constituent parts of the ore it must be ground to the finest of fine talc. To separate those constituents the principle of flotation is applied, which consists of adding certain chemical reagents into the cells, and into which air is blown, with the result that mineral particles will attach themselves to the air bubbles coated with a certain type of chemical. A great deal of worthless material is floated off by the use of pine oil and froth. The next mineral treated is copper; then zinc is floated off, and these are passed through different cells, the chemical nature of each cell being different. Then the iron pyrite which is left after copper and zinc have been taken away still contains a certain amount of gold, and that is treated as it would be treated in a gold mine, by the cyanide process. But it was only by this method of floating off these constituent metals so intimately associated, which made the ore body an economic operation at all.

Hon. Mr. HORNER: I believe there was a considerable amount of money spent on that process.

Mr. SHEPHERD: About a million and a half dollars was spent on the working out of the process and the setting up of a pilot plant to test it.

There is an immediate need of a clear understanding being imparted to the Canadian wage earner as to the effect that increased wage demands will have upon his personal well-being. During the active years of employment through which he has just passed, the wage earner has in many cases been able to set aside a greater amount of savings than he has ever previously enjoyed. These savings may take the form of bank accounts, war bonds or compulsory savings. Veterans have cash reserves at the present time for which they should have every regard. Inflationary trends, occasioned by increased wage demands, will, before long, reduce the value of a workman's savings to a degree far exceeding any benefit he may have obtained by way of wage increase during this period of rising wages and living costs. The improvident citizen alone is not harmed by inflationary trends, and it is surely not the intention of government to place improvidence at a premium.

TARIFF ON BASE METALS

The bulk of the Canadian base metal output is produced for export and insofar as the American market is concerned, any mutual reduction or abolition of tariff imposts on base metal, ores or concentrates between Canada and the United States would be welcomed by the Canadian base metal industry.

The following figures indicate the trend of domestic export ratios of the common base metals, copper and zinc for the past decade. Not only should they be considered with regard to tariff policy but should also be borne in mind when the relationship of the industry to the Canadian mine labour problem is under review.

Percentage of Canadian Refined Copper Produced for Domestic and Export Consumption

	Domestic Consumption	Export
Pre-War, 1936-39	25%	75%
War Years, 1940-45	44%	56%
Ten-Year Average	37%	63%

Percentage of Canadian Refined Zinc Produced for Domestic and Export Consumption

	Domestic Consumption	Export
Pre-War, 1936-39	12%	88%
War Years, 1940-45	33%	67%
Ten-Year Average	25%	75%

Annual Canadian Refined Copper Distribution

(1,000 short tons) 1936-39

Total	'36	'37	'38	'39	Total	Average	%
Annual Production	192	215	227	232	866	216	100
Domestic Consumption	51	56	54	57	218	54	25
Export	141	159	173	175	648	162	75

Annual Canadian Refined Copper Distribution

(1,000 short tons) 1940-45

Total	'40	'41	'42	'43	'44	'45	Total	Aver.	%
Annual Production	262	278	271	254	251	227	1,543	257	100
Domestic Consumption	64	116	149	158	105	92	684	114	44
Export	198	162	122	96	146	135	859	143	56

Canadian Copper Production Ten-Year Period (1936-45)

Ten-Year Total Production	2,409	100%
Yearly Average	241	
Domestic Consumption	902	37.5%
Export	1,507	62.5%

Annual Canadian Refined Zinc Distribution

(1,000 short tons) 1936-39

Total	'36	'37	'38	'39	Total	Average	%
Annual Production	151	159	172	176	658	164	100
Domestic Consumption	16	20	18	23	77	19	12
Export	135	139	154	153	581	145	88

Annual Canadian Refined Zinc Distribution

(1,000 short tons) 1940-45

Total	'40	'41	'42	'43	'44	'45	Total	Aver.	%
Annual Production	186	214	216	207	168	183	1,174	196	100
Domestic Consumption	37	61	80	80	69	60	387	65	33
Export	149	153	136	127	99	123	787	131	67

Canadian Zinc Production Ten-Year Period (1936-45)

Ten-Year Production	1,832	100%
Yearly Average	183	
Domestic Consumption	464	25%
Export	1,368	75%

It is considered that the American base metal industry is in a position to compete favourably with most Canadian producers without the additional benefits of tariff charges. A substantial reduction of tariff rates would have a direct impact upon a relatively few high-cost producers, whose output forms but a small part of over-all American production and whose ore reserves, it may be contended, should be maintained against the time of any future emergency tangible expression of sincerity in regard to these principles would be found in requirements.

The conclusions reached at Bretton Woods in recommending a world bank policy are predicated upon a general lowering of tariff barriers. The most the United States itself, reducing tariff imposts on many Canadian products.

The physical nature of base metal deposits in Canada is such that in order to produce certain of the metals which are required by American industry, others must also be produced as a direct consequence. Large scale production of nickel in Canada implies also the production of large quantities of copper. Similarly, many copper deposits have associated with them considerable quantities of zinc ore for which a market must also be found in order that the economic operation of a mine be practicable. Canadian production of lead also implies a high production of zinc metal. Sound conservation practice employed in the development of our mineral resources requires that the greatest possible quantity of "ore" be extracted from a deposit during the period of its most economical operation and therefore where possible, markets should be found for all usable products.

In the interest of the security of both Canada and United States, it is essential that there be maintained strong base metal industries in both countries, capable of marshalling their resources whenever required and it is felt that this may only be achieved by a mutual effort brought about by an unhampered exchange of mineral products.

Requirements of the Industry Concerned with Governmental Services

(*a*) In order to meet the requirements of greatly increased exploratory investigation which must be conducted by the mining industry if replacements for ore are to be found, there will have to be undertaken by governmental agencies in Canada, greatly accelerated programs of topographical and geological surveying. It is realized that technical personnel required for this work is at the present time in extremely short supply. Remuneration to geologists and engineers undertaking this important work on behalf of governmental agencies must be comparable to that offered by private industry for work of a similar degree of importance. This is extremely essential in order that the proper type of scientifically trained men may be attracted to and kept in government service.

(*b*) It is considered necessary to the well-being of the Industry that the collection of data pertaining to the water resources of northern Canada be maintained and increased particularly in those areas where mineral development is considered to be a possibility and hydro-electric installations likely to be required.

(*c*) In the matter of the construction of roads into mining areas, it is deemed essential that the potentialities of the area be given prior consideration rather than waiting until one particular mining operation should suddenly require improved transportation facilities.

(*d*) It is felt that immediate consideration should be given to the construction of air strips in stable northern communities in order to prevent complete isolation of these communities during the seasonal periods of freeze-up and break-up. Closely associated with this requirement is the need for a clearly defined governmental policy regarding civil aviation, particularly as it affects services to northern mineral development.

(*e*) It is considered that the mining industry of Canada is of sufficient importance to its national well-being as to warrant the creation of a Department of Mines which would be charged with the sole responsibility of administering the affairs of the Canadian mineral industry and that the deputy ministership of this department should be filled by a person having adequate technical qualifications to enable him to be fully appreciative of and conversant with the requirements and possibilities of the Canadian mineral industry.

ACKNOWLEDGMENTS

The Industry is fully cognizant of the many valuable services rendered on its behalf by staffs of the Dominion and Provincial governments. The scientific investigation which has been undertaken by officers of the geological surveys, employed by the Dominion and Provinces have laid an excellent groundwork for the later explorations of the prospector and the engineer. The splendid equipment and facilities of the Ore Testing Laboratories at Ottawa are, it is felt, not sufficiently appreciated by the Canadian public and even by many within the Industry. It is therefore considered opportune, that an expression of confidence and gratitude should be tendered by the Industry to those employed by the Department of Mines and Resources who have devoted their time and talents unselfishly to the well-being of the Industry. Grateful acknowledgment is therefore made of the assistance to the Industry rendered by Dr. Charles Camsell, retired Deputy Minister of Mines and Resources, Ottawa; Mr. W. B. Timm, Director, Mines and Geology Branch; Dr. George Hanson, Chief Geologist, Geological Survey of Canada; Mr. K. G. Chipman, Chief Topographer, Bureau of Geology and Topography; Mr. C. S. Parsons, Chief, Division of Metallic Minerals; Mr. W. H. Losee, Chief of the Mining, Metallurgical and Chemical Branch, Dominion Bureau of Statistics; and the excellent staffs serving under them.

It is also desired to acknowledge the harmonious relations that have existed between the officials and technical staffs of the Department of Mines and Natural Resources, Province of Manitoba; the Department of Natural Resources, Province of Saskatchewan and the mining industry in the two provinces and to commend the Departments upon their desire to co-operate with the Industry to a mutual advantage.

Respectfully submitted,

MID-WEST METAL MINING ASSOCIATION.

Winnipeg, Manitoba,
May 9, 1946.

Hon. Mr. McRae: Mr. Chairman, in my judgment this is a very fine brief. It brings out some new points, but in most cases it supports the briefs that have already been filed with us. There are one or two questions I would like to ask Mr. Shepherd. How important to the industry in your province is the present exchange of 10 per cent, which gives you $38.50 for gold instead of $35, as it would if our money returned to par?

Mr. Shepherd: The San Antonio Mine, which is entirely a gold producer, is operating on an ore that gives them a reasonable margin. I think their heads run around $12.50 a ton. But we are expecting to enter into operation on a large deposit in the Herb Lake area where the ore will be of a very marginal grade around $6, and the 10 per cent will be very important there. So it depends on the grade of ore mined. Of course the exchange is welcomed by all.

Hon. Mr. McRae: It is considered almost necessary in many cases, is it not?

Mr. Shepherd: I would say so.

Hon. Mr. McRae: Your ore grade is a little higher than that of some of the other provinces.

Mr. Shepherd: That 10 per cent would be particularly helpful to some of the mines in western Quebec that are sailing pretty close to the wind.

Hon. Mr. McRae: With $6 ore?

Mr. Shepherd: Yes.

Hon. Mr. Crerar: Take a mine like the San Antonio, which is a good mine, well managed, with substantial ore reserves. If they were to maintain their existing rate of profit, which is not unreasonable, the removal of the 10 per cent exchange would simply mean that they would have to raise the grade of their ore?

Mr. Shepherd: That is right.

Hon. Mr. Crerar: And then ore that they are mining now—

Mr. Shepherd: Would be left in the ground.

Hon. Mr. Crerar: It would be left in the ground as rock. That I think is the test, Mr. Chairman, that can be applied to any of those mines. Take the western Quebec mines, for instance. Suppose the 10 per cent exchange were abolished. If on top of that there was an increase of, say, 10 per cent in the cost of their labour or materials, the combination of those two factors, or either of them, would have this effect, that what is now ore would become rock, the life of the mine would be shortened, the volume of employment over a period of years would be reduced, and you can scarcely conceive of conditions under which that wealth would ever be taken out of the ground. That I think is the clear distinction that we should keep in our minds. Take a mine like Lake Shore, which is operating with a high grade of ore. It could survive the absence of the 10 per cent exchange, and it could undoubtedly survive an increase in operating costs, through increased wages or costs of materials, but even with Lake Shore those circumstances would definitely shorten the life of the mine.

Hon. Mr. Horner: In the part of the brief dealing with taxation you mentioned provincial royalties. The Flin Flon Mine is partly in Saskatchewan and partly in Manitoba. Has the province of Manitoba put on a tax like the special tax imposed by the Saskatchewan Government?

Mr. Shepherd: When the Hudson Bay Mining and Smelting Company went into operation it reached an understanding with the province that no royalty would be imposed until—I am speaking from memory—I think the first of December 1947.

Hon. A. L. Beaubien: An understanding with both governments, Manitoba and Saskatchewan?

Mr. Shepherd: No, just with the Manitoba Government.

Hon. Mr. HORNER: Of course, the former Saskatchewan Government was collecting a certain royalty.

Mr. SHEPHERD: A small royalty.

Hon. Mr. HORNER: But the present Saskatchewan Government has raised it by $600,000?

Mr. SHEPHERD: That is correct.

Hon. Mr. CRERAR: Or more.

Hon. Mr. MCRAE: The mine, to begin with, was in the province of Manitoba, was it not? It would be interesting to know why a very ably managed company like Flin Flon would build its plant exactly on the boundary between two provinces, partly in one province and partly in the other. The Americans did not understand our system of provinces in this country.

Hon. Mr. CRERAR: That is not the explanation. The explanation is that the boundary between Manitoba and Saskatchewan at that particular point had not been defined when the mine commenced operations. The company thought it was in Manitoba, when in fact it was astride the line.

Mr. SHEPHERD: And the average person thinks that it is the north-south boundary line that the ore body crosses, but actually it is the correction line, the east-west line that has been put in. The correction line takes a jog just at the ore body, which runs across the corner.

Hon. Mr. MCRAE: The different labour regulations of the two provinces must cause some complication. I understand they have to divide their staff. Is that correct?

Mr. SHEPHERD: In some respects, yes.

Hon. Mr. WHITE: In your brief you say that base metal mines are perhaps in a more favourable position than gold mines, due to the fact that gold is at a fixed price and base metals are variable in price. While it is true that there was a strong demand for many base metals during the war, is it not possible that the demand for some of them will be lighter in peace-time?

Mr. SHEPHERD: There is a growing demand for base metals to-day. The demand for copper is not so strong, but for lead and zinc and so on there is a very large demand. How long that will continue after foreign competition gets under way, we do not know.

Hon. Mr. HORNER: I have not read the entire brief. The other man we had before the Committee complained of the charge by the government of thirty-five cents an ounce. He also complained of the overage the government retained. Have you Manitoba people complained of that?

Mr. SHEPHERD: We have not complained of it. However, we would welcome any rebate we would receive.

Hon. Mr. BURCHILL: What about your taxes? You do not say anything about depletion. Are you satisfied with the depletion regulations as they are now?

Mr. SHEPHERD: The problem of depletion has been dealt with. The question of taxation, and its impact on all industries—if there is any manner in which mining could be recognized as to its status—we would naturally leave that to the responsible authorities examining the overall question of taxation.

Hon. Mr. DUFFUS: Mr. Chairman, I agree wholly with the very complimentary remarks of my friend, Senator McRae. I think a very fine brief has been presented in a very fine manner.

The CHAIRMAN: If there are no further questions by the Committee, I wish to thank Mr. Shepherd personally for the willing and capable consideration he has shown to us.

Mr. SHEPHERD: I thank you very much. It has been a pleasure to be here.

The CHAIRMAN: We have with us Mr. Sydney Norman, who is a special *Globe and Mail* writer. He was formerly the mining editor of the Vancouver *Sun*, and for four years he was the mining editor of the *Globe and Mail*. Surely with the experience Mr. Norman has had he can give us some very enlightening remarks.

Hon. Mr. McRAE: Honourable members, I am familiar with Mr. Sydney Norman's long history as a financial man in the mining industry. I might say he has seen the mining industry develop in the United States. He has at the present time been doing some special work for the *Globe and Mail*. He has recently returned from the Yellowknife district. He might have something to say on that district to you. I am sure you will find Mr. Sydney Norman's talk very interesting. He has not prepared any brief, so we shan't need any record.

Mr. SYDNEY NORMAN: I am very sorry I have no brief to present to you, but I was only asked yesterday to come here, and give you something of my experience in the United States and in Canada—to try to impress on you the tremendous importance of the mining industry, and the importance of encouragement of the mining industry by every means in the power of the government. I rather regret to have to tell you it has been fifty-seven years since I first saw a mining camp; it was a mining camp in Washington, right close to the British Columbia line. In 1893 I joined the ranks to the Slocan rush in British Columbia. There I drove a pack train, and finally became a miner. After that I went to Spokane, where I helped to organize the first stock exchange, in 1897. That has given me views on the country—the high trend in British Columbia—and since that time I have been connected somewhere or another with the mining industry of this Dominion. That gave me the opportunity, gentlemen, of seeing what mining could do in an absolutely deserted country. I was at Trail in 1895 when the foundations of the great smelting enterprise were being laid by F. Augustus Heinze of Butte. I was in Rossland and in the boundary area where companies like the British Columbia Copper Company, and other firms of that sort, were founded and operated successfully. I have seen Trail grow from nothing to one of the most prosperous towns in Canada, with a population of 30,000. I have seen Nelson grow from a few log cabins to one of the prettiest and nicest municipalities. And, I have seen Spokane, on the other side of the line, grow from 18,000 to the population of 150,000, due almost entirely to the profits from the mines. At that time there was no connection between east British Columbia and the west coast. Perhaps you know in those days practically the entire capital invested in British Columbia was United States capital, and almost all of the profits from the mines went to Spokane. I could take you down the streets of that city and show you one after another of the buildings that came from the money won either in the Slocan country or Rossland or at the boundary. You will remember that in those days there was no railway connection with the eastern part of British Columbia to the coast, to Vancouver, and it was not until about 1904 that the Kettle river and Crow's Nest branch of the Canadian Pacific was built. From that time on you will notice the growth of Vancouver was very great, and it is now a city, as I understand, of three or four hundred thousand people. It was in 1907, gentlemen, or 1906, that I was in the gold fields of Tonapah, Greenwater, which is on the edge of Death Valley; and in the following year I became the mining editor of the Los Angeles Times. It gave me a great opportunity to watch the growth of the States, particularly Los Angeles, and Phoenix, Arizona, and other towns in Arizona, due entirely to the development of mines in that country. Much of the wealth of Arizona went to Boston and created a very rich layer of people there. I saw Los Angeles grow from 1906, when it had a population of approximately 250,000, to now, when it has a population of perhaps one million and a quarter, and over two million living in the county. That has been due to the development of the mines in the surrounding states, and of course, the tremendous development of oil in the state of California. Phoenix is a fine city of fifty or sixty thousand people. Long Beach, Tonapah, and all the other towns in that area are due to the development of the mines.

I returned to Canada in 1927. I went through the great mining boom of that period, which I know you gentlemen will remember. Also, I think you will agree with me that it changed even the skyline of Toronto. It brought to Toronto, and to Canada, the greatest mining movement that the continent had ever seen. In these days we have so much more money, and the opportunities are greater. The movement in Canada, in Ontario, which I took part in in those days, has perhaps led to the building of the town of Timmins, for instance, in the Porcupine district. The town, as you know, is now a very prosperous and active town with a population of 30,000. Kirkland Lake, which is bound by the three gold mines of that camp, now is a town of 25,000. Both towns are modern in every respect, and absolutely dependent on the development and prosperity of those mines. Then you have Larder City, gentlemen, which is built around the mines on Larder Lake. Then you have Kerr-Addison. Then going across the line you have Noranda, Val d'Or, Cadillac, Malartic, and Rouyn, all prosperous towns, and all dependent on the mining industry wholly.

I noticed that the gentleman from Manitoba who presented the brief mentioned the Flin Flon mine. It is well to look back and cover what has happened there. In 1928 I was there, and there was practically nothing. To-day there is a modern town of about 15,000 people. Every convenience that you can conceive of is there away out in the country, which when I first went there was absolutely barren. Senator McRae told you that I have recently returned from the Yellowknife district. I would say that it has possibilities of being one of the greatest gold areas in the world, certainly on this continent. It is a tough country—it will take a lot of capital to develop it, to develop transportation, and other necessities. What has been done since I went there first in 1944 is remarkable. I estimated the population then at approximately 600. I have just come back from there, and I estimate the present population at 3,000. I believe before this summer is over there will be 5,000 in the Yellowknife district and vicinity. I base that upon the facts that there will be 300 more men in the Con mine, which will go into production again in September and will gradually increase its force. It now has about 110. The Negus mines will employ 100; the Snare River Hydro Electric plant, which is to be built by the government at a cost of $4,000,000, will employ at the very least 500. The mine of which I speak is 80 miles west of Yellowknife. There are six or eight mines that will need some 20 to 60 men, and there are enumerable prospects that will employ anywhere from six to fifteen men on diamond drilling principally so that I feel within a few months there will be at least 2,000 men employed in the mines and in the building that is necessary in the new town of Yellowknife now being built by the government. Based on that estimate you will see that it is conservative to say that there will be a population of five to six thousand during this summer.

While you gentlemen may know what the government is doing, it may be of some interest to you to know that the Snare River Hydro Electric plant, which will develop 7500 h.p. lies 80 miles west of Yellowknife, on the Snare River. Its construction entails a diversion dam 855 feet long, 15 feet wide and 60 feet deep; the scheme also entails the joining of several lakes, one with a 600-foot tunnel, and another one 2500 feet, at an estimated cost of $90.00 a foot. There is also to be constructed a pressure tunnel with a fall of 120 feet into the first power plant. In the new townsite of Yellowknife the government is putting up an administration building at a cost of $240,000 which will house the liquor store—which is very popular up in that country—and all the administration buildings and quarters for the staff. A $200,000 hospital is being built by the

Canadian Red Cross, and a new hotel to cost $150,000 is being built by Ingram who owns the Yellowknife Hotel.

It is necessary, gentlemen, to consider the extent of that country and to remember that most of it is overlaid by the Pre-Cambrian shield and therefore offers a possibility for the development of mines.

Hon. Mr. CRERAR: May I interrupt you, Mr. Norman, to ask you to tell the committee just where Yellowknife is. How far is it north of Edmonton?

Mr. NORMAN: It is 700 miles by air, and considerably further by rail or water. It is 339 miles by rail to Grimshaw, which is the winter route over the northern Alberta railways; it is 380 miles from there to Hay River and then by direct line across the Great Slave Lake, 125 miles, to Yellowknife. But in the winter when the temperature goes down to fifty and sixty below zero the "cat-trains" have to take the more secure route. They go east of Fort Resolution, then across the lake, making a total of approximately 220 miles. It means a trip of close to 800 or 900 miles, and when supplies are taken in there by "cat-trains" it is one of the toughest jobs transportation men have been engaged in, and costs but 7½ cents a pound for the transportation of those supplies. I remember in the early days of British Columbia when I was running the pack train a maximum distance of 30 miles from Kaslo to New Denver I collected 7 cents a pound for transporting supplies.

Hon. Mr. DUFFUS: For that distance?

Mr. NORMAN: Yes, for that distance. Now the "cat-train" can take it for 7½ cents a pound; by water it goes for 3 to 4 cents, and by air 35 cents.

The area of the Northwest Territories is 1,309,000 square miles. Into that area can be put the combined areas of Ontario, Manitoba, Quebec, Prince Edward Island, Nova Scotia and New Brunswick and still leave 4,817 square miles of territory. The calculation will give some idea of the immensity of that country and of the difficulty of getting around in it. The only way to get around in that country is by air, and planes have been scarce during the war years. Therefore the extent of development has been held back. When I was there in 1944 I made the prediction that within a few years there would be a dozen camps within the range of Yellowknife. That has already come to pass. They are prospecting and developing 175 miles north, in the barren lands, and 120 miles north of Indian Lake, 45 miles east of the Beaulieu River, and north of the eastern part of the Great Slave Lake.

Hon. Mr. HORNER: What about Gold Fields?

Mr. NORMAN: I did not go to Gold Fields.

Hon. Mr. MCRAE: That is north of the Great Bear Lake, is it?

Mr. NORMAN: No, Gold Fields are in Saskatchewan on Lake Athabasca. That is where the Consolidated Mining and Smelting Company has the Box property, which is not in operation now.

It has been my observation during the time that I have been engaged in mining that no nation in the history of the world has been so dependent upon the development of mining as is the Dominion of Canada. That is due possibly to the fact that a great deal of this immense area of the Northwest Territories will not support life in itself; and that therefore it is necessary to create something which will provide employment, and so far as I can see mining is the only thing that will do it. With the development of mines other industries naturally follow, and I should not be surprised to see the Northwest Territories support many towns of real importance. It is generally looked upon as a country that will not provide anything in the way of edibles; and yet, I have myself eaten vegetables grown in Yellowknife, such as potatoes, cabbages and such things; I have also seen a flower garden that would compare favourably in colour and size with anything I have seen in California.

So that no one knows what may come of that northern country when it is developed.

As I said before, gentlemen, I feel that Canada is more dependent upon mines than any other nation in the history of the world; therefore, it is necessary for us to encourage mining in every possible way so that this nation may prosper to the greatest extent, and in a way in which the good Lord intended it should. While I know nothing about taxes and have not studied the question it is very obvious that taxes must be kept down. If the taxes are kept at a minimum the government in the end will gain far more than it will by heavy taxation at this time, which will perhaps have the effect of stopping the development of mines and the flow of money from the outside.

Hon. Mr. CRERAR: Do you mean by that, Mr. Norman, that the revenue that will be derived from the mining operations will more than equal the taxes imposed upon the mine, which would have the probable effect of stifling future development.

Mr. NORMAN: That is exactly what I meant, Senator Crerar. I have tried to point out that at least 2,000 men will be engaged in the Yellowknife area this year, at very high wages, and they will be subject to income tax. The revenue the government will get from them will equal a good deal of the gold coming out of those mines; and might I add that in the Northwest Territories the mines there have already produced 15,000,000 and have been closed down since 1942.

Hon. Mr. MCRAE: What is the average wage up there?

Mr. NORMAN: I can give you the wage scale at Negus, which scale is to be adopted, I understand, by all mines in that area. It is as follows: first-class miner, 98 cents an hour; stoke miner, 93 cents; motormen, 89 cents and trammers, 83 cents; all employees participate in additional contract bonus; the general surface labourer, 77 cents an hour; first-class carpenter and other skilled trades, $1.03; board is $1.50 a day, and the cost to the company is approximately double that figure. With the contract bonus head men make as much as $5.50 per day above the wage scale. The average bonus in April was $3.00 per man.

Hon. Mr. MCRAE: That is $3 per day per man?

Mr. NORMAN: Yes, if you multiply 98 cents by eight it is around $8 per day, and add to it $3 it gives a total wage of $11 for a first-class miner.

Hon. Mr. MCGEER: How does that wage compare with wages paid in other parts of Canada to-day?

Mr. NORMAN: I have not got the figures on that matter at the present time. However, I think that the wages in Kirkland Lake and Porcupine are a little less than that, but not very much; they are also under the contract system, and therefore are earning pretty high wages in both those camps.

Hon. Mr. BEAUBIEN: Of course the cost of living would be much higher in Yellowknife than in these other places?

Mr. NORMAN: The company absorbs the difference; it also supplies them with special accommodation in the way of rooms, community hall, theatre, baths and everything one can think of.

Hon. Mr. BEAUBIEN: But if they have to buy a pair of shoes or some clothing the cost would be much higher than elsewhere?

Mr. NORMAN: That comes from the commissariat at the mine, and I understand they hold it pretty close to cost.

Hon. Mr. BEAUBIEN: But if it costs 7½ cents per pound to take it in there by cat-train and 35 cents by air, it would raise the price?

Mr. NORMAN: Yes; anything that comes in by air of course costs money. You can get green stuffs by air, and I know a piece of celery will cost you 50 or 60 cents; but apart from that prices are not out of line.

Hon. Mr. HORNER: There is a possibility of a lowering in the cost, with planes more plentiful now is there not?

Mr. NORMAN: That is difficult to say, sir. The Canadian Pacific Air Lines has a most excellent service. I made the trip out in three hours and 50 minutes, the speed being about 200 miles an hour. They have nine Lockheed planes and they switch them between their different routes. There are a good many more planes going in there now than ever before. When I was there the bush-flying fleet consisted of about a dozen planes, and I think that number will be doubled this year. I might add that to-day Edmonton is one of the best towns in the Dominion of Canada. It is in wonderful shape.

Hon. Mr. McGEER: It always has been.

Mr. NORMAN: I did not know that, but I do know that it has taken on a new lease of life since the Yellowknife was discovered and since the activities began in the north. They are not very mine-minded there, but are beginning to catch on a little.

Of course, gentlemen, Ontario is the greatest political subdivision on the North American continent, from the point of view of production. It is interesting to note that up to the end of 1945 the total mineral production has been $4,658,825,150.

Hon. Mr. CRERAR: From the beginning?

Mr. NORMAN: Yes. That is according to government records.

Hon. Mr. CRERAR: It would be interesting to know how much of that has been produced in the last twenty-five years. Have you the figures showing that?

Mr. NORMAN: No, sir. The discovery of Porcupine, for instance, was in 1910, thirty-five years ago, and I should think that 95 per cent of that total was produced in that period. Out of that total, the metals production has been $3,746,482,521; and gold, $1,617,388,956. The figures for nickel, copper, silver and platinum metals are also large. That I think is the best evidence you can have of the value of mining to this Dominion. It has certainly changed Toronto, as you all know, and has made it the centre of the greatest mining activities in the history of the American continent.

Hon. Mr. CRERAR: You spoke a little earlier of the Porcupine camp and the town of Timmins, which has a population of 30,000. What has the production of gold been in that camp?

Mr. NORMAN: Porcupine camp leads the Americas, with production to the end of 1945 of $846,050,030.

Hon. A. L. BEAUBIEN: That is gold alone?

Mr. NORMAN: That is gold alone. There is only one political subdivision on the North American continent that surpasses Ontario in the production of gold, and that of course is California. The total in California is more than two billion dollars, but that includes the great placer production of earlier days. If production here is maintained at its present rate Ontario will catch up with California in a few years. Kirkland Lake has produced $489,614,000. Then there is the Kerr-Addison mine, which I believe is going to be the greatest gold mine in Ontario.

It is interesting to note that out of that total metals production of $3,746,482,521 which I mentioned, the sum of $2,734,194,422 had been spent up to the end of last year upon labour, supplies, power and transportation. That is 74 per cent of the entire production, whereas the dividends of $1,012,288,099 represent 26 per cent of the total. The gold dividends have amounted to $490,405,599, or approximately 30 per cent of the total dividends.

Hon. Mr. McGeer: What percentage do the taxes constitute?

Mr. Norman: I have not that information, sir, but I am sure it is correct to say that they have been pretty high.

Hon. Mr. McRae: Those dividends are for the whole period, not for one year?

Mr. Norman: Yes, for the period.

Hon. A. L. Beaubien: The indications are that the ore in the Yellowknife district is of high grade?

Mr. Norman: High grade and the opposite.

Hon. A. L. Beaubien: The working period of the year in that territory would be rather short, would it not?

Mr. Norman: No, sir. They work better in the winter than they do in the summer.

Hon. Mr. Horner: They will not have the deep snow that Northern Ontario has to contend with.

Mr. Norman: No. The snowfall is very light. That is a semi-arid country.

Hon. Mr. McGeer: The climate is not as severe as in northern Ontario or Quebec?

Mr. Norman: There is no difference at all, sir, from my observation. I have seen it 40 and 50 below at Noranda, and I have heard that it has gone as low at 60 below in the Yellowknife district.

Hon. Mr. McGeer: It has been 40 below in Ottawa.

Mr. Norman: Yes. So far as comfort is concerned, there is nothing to stop development in that country. You can find just as good homes in the Con mine area as you would want to live in here. All the discomforts of that northern country, or at least most of them, can be removed if you have the money.

Hon. Mr. Crerar: Generally speaking, Canadians have to revise their whole conception of the north country.

Mr. Norman: I quite agree with that, sir. And when you remember that only 5 per cent of those great Northwest Territories have been geologized and the rest of them have scarcely been looked at even by air, you can imagine what a heritage is up there. But you have got to go after it. And you must remember that it is a tough game in the initial stages and that men need to be encouraged to keep at it, that if they do make profit they are entitled to it, and the government should be careful not to take their money away from them. It is a tough job, awfully tough. As I think I told you before, the transportation job across the Great Slave Lake is the toughest undertaking of the kind that man have ever engaged in. They have to encounter temperatures down to 60 below, and it is almost impossible to avoid frozen ears, noses and feet. I ask you gentlemen to remember that when you are dealing with the taxation of the business. I have had an opportunity to read the brief that was presented to you by the Toronto Stock Exchange, and I agree with what they say in reference to taxation. High taxation will mean that millions and millions of tons of ore are going to be left in the ground, and if that happens it will remain there, because no mine will justify reopening after a certain period. If you can so arrange the finances of this country that a mine can keep operating and get out all the ore that is in sight, you will be doing one of the greatest jobs that can be done for the Dominion of Canada. I have great faith in the development of that northern country, but, as I said before, it is going to take a lot of work and a lot of capital; and what capital does go in there is entitled to a fair reward, if it wins.

Hon. Mr. CRERAR: A great deal of courage and self-reliance are needed for the carrying on of that work.

Mr. NORMAN: A great deal of courage and self-abnegation, you might say.

Gentlemen, if there are any questions you care to ask me, I shall try to answer them.

Hon. Mr. McGEER: In your general consideration of this problem have you ever considered the use of gold in Canada? The practice today, as I understand it, is to ship the gold to the mint, and it is then forwarded to the United States. What is done with it over there is, of course, a matter of American Government policy. Have you ever given any thought at all to the use of gold? We are apparently spending a great deal of risk capital and effort and energy on the production of gold which is shipped out of the country and made subject to the policy of the American Government. Have you ever given any thought to the use to which gold could be put in Canada?

Mr. NORMAN: Let me answer you this, sir. I think Canada is a country that could use it—I think she should. How she could, I don't know.

Hon. Mr. McGEER: What I have in mind, to be perfectly frank with you, is that some of these gold productions that we are now developing, and carrying on at the moment, should be reflected in the gold reserve of the people of Canada.

Mr. NORMAN: Well, I am not a financier, therefore, I would not care to go on record. I would say that Canada has made a great mistake in the way she handled silver.

Hon. Mr. McGEER: Yes, I entirely agree with you. Silver is still hard money in many countries. I do think if Canada used silver as she should her trading position would be very much better than it is to-day.

Mr. NORMAN: You will notice that the United States Senate Finance Committee has agreed on the price of 0.97 or 0.97.3 for silver. That gives you practically one dollar for silver. One thing I cannot understand is shipping out silver at forty or forty-five cents, or the ceiling price, and sending it across the line where they sell it at the price of 71.11.

Hon. Mr. McGEER: We do a lot of funny things in Canada.

Mr. NORMAN: It is a funny thing. Canada produces an ounce of silver, which is shipped to Ottawa, and Ottawa sells it to the United States for thirty-five cents, and perhaps a little more due to the exchange. It is entered on the books of the United States at $1.29, a certificate is issued. It comes up from the United States with a tourist, who pays $1.10 for it. I could never understand it, and I believe something is "screwy".

Hon. Mr. McGEER: That is what is called sound money.

Hon. Mr. McRAE: Now, Mr. Norman, it is recognized 25 per cent coverage is called sound money?

Mr. NORMAN: Yes.

Hon. Mr. McRAE: I take it what my colleague has in mind is to have a little gold in the treasury as far as issuing currency against it. Every country, Great Britain and United States, considers they have sound money if they have gold behind it. They issue three or four times as much currency as they have gold in the treasury. This is considered sound principles by any banking establishment in the country.

Hon. Mr. McGEER: That is a fact. During the London Conference following the previous Imperial Conference of 1932, in Ottawa, it was agreed that as far as the previous imperial gold coverage was concerned that a maximum of twenty-five per cent was sufficient, with the right to cancel the surplus in time of national emergency. That policy was confirmed at the London Conference of 1933. Since then as far as gold coverage is concerned the twenty-five per cent coverage has been adopted by all countries with the exception of the United States, where silver coverage of paper money in circulation has taken the place of gold entirely. The point I had in mind was the value of gold and silver as an international money power, as the basis of developing international trade. What we do is, we take our gold out of the ground, and ship the bulk of it to the United States. I do not know how much gold we have in the Foreign Exchange Control Board. That is a secret. I would assume it is altogether likely that we have the twenty-five per cent of the total cash issued by the Bank of Canada; but a very large proportion of our gold is taken to the United States, and completely immobilized in the vaults in Kentucky. The United States have far more gold than they can use. We in Canada are treating our gold as a commodity, instead of treating it as international money. If you have a piece of gold anywhere in the world, you have got money in any people's language.

Now, we take much of our gold out of the country at a fixed minimum value. What the value may be in its inflated condition of many of the countries is not of concern. The value was fixed at a minimum value of $35 by the United States Government, and which was given universal backing. Gold, to me, is something we should not treat like wheat, or any other commodity, and ship out of the country.

As to silver, I think it is pretty near common practice in the oriental world and in some of the Latin American countries that silver is still the money of use—silver coins.

Mr. NORMAN: I think the reason we ship the gold out of the country is that we have to pay for obligations already incurred in other countries.

Hon. Mr. McGEER: That does not have to be true. We have accumulated a very large surplus of American dollars. I don't know how much it is. I think it is pretty substantial. There are other ways by which we can increase the accumulation of American dollars. It may be by investment in a mine if you will. But our tourist trade is completely neglected, and is a most undeveloped possibility of getting foreign dollars—particularly American dollars—into the country. That is what we have to find out.

Hon. Mr. BEAUBIEN: Would it not be more profitable to sell to the United States at $35 or $38 an ounce, with exchange, than to spend money building vaults to store it in?

Mr. NORMAN: I am a great believer in hard money. War has taught a great many people that paper money is not of much account.

Hon. Mr. BEAUBIEN: Since it has been established that twenty-five per cent coverage is enough for our money, as long as we keep that reserve, that is all gold is worth to us except for filling people's teeth and other things of that description. Is it not better to sell the gold to the United States and keep our coverage at 25 per cent rather than horde it and have the expense of building vaults to store it, and the necessity of hiring men to protect it?

Mr. NORMAN: As I have said before, I am not an economist.

Hon. Mr. McGEER: A hard-money man would not agree with that position.

Mr. NORMAN: I am a believer in hard money.

Hon. Mr. McGEER: You believe in the accumulation of gold for hard-money purposes? You cannot have hard money without gold and silver in reserve.

Mr. NORMAN: That is quite true.

Hon. Mr. CRERAR: Mr. Chairman, the discussion has taken a turn which is very interesting, but outside the reference of the committee.

Hon. Mr. McGEER: If we are dealing with natural resources I do not think I should be shut off on the ground that the use of the natural resources is not within the scope of the inquiry.

Hon. Mr. CRERAR: I would think, Mr. Chairman, that is stretching it a bit far, as to whether or not we should maintain $200,000,000 or $500,000,000 gold reserve—I submit it is not within the reference of this committee, which is to discover all possible information on the economic value of these mines in Canada. On that point I should like to ask Mr. Norman a question. You spoke of the development of the camps at Porcupine and Kirkland Lake, and said that between the two camps something between a billion and a quarter, and a billion and a half has been spent on the development. How has that been spent? What value is that to a city like Toronto?

Mr. NORMAN: Well, Toronto has supplied most of the equipment, and most of the building supplies necessary to the camps.

Hon. Mr. CRERAR: I take it that Toronto has supplied most of the clothing, lumber, machinery, and everything necessary for an up-to-date community?

Mr. NORMAN: Absolutely.

Hon Mr. McGEER: All that is necessary for a high standard of living? I understand they take not only those things, but fresh vegetables, fruits and agricultural products.

Hon. Mr. CRERAR: That to me is an important thing. Take the town of Flin Flon to which reference has been made by Mr. Norman. When I was at Flin Flon for the first time in 1917 they were putting down a diamond drill to see what they had. I have watched that town grow into a town of around, I would say, of 10,000. Due to the needs of Flin Flon the development of the agricultural district to the south has been astonishing; they have to get their beef and milk from that district. You can go any day of the week on a train to Flin Flon, and see scores of milk cans being loaded on express cars to serve that community. You can see that all down the line. That to my mind illustrates one of the phases of value of metalliferous mines to Canada.

Mr. NORMAN: You will remember that $27,000,000 was spent at Flin Flon before a dollar came out. This amount came from the Whitney Estate. Perhaps Mr. Shepherd can give us the figures on that.

Hon. Mr. McGEER: It was all American money.

Mr. NORMAN: They have now paid forty millions in dividends.

Mr. SHEPHERD: I think altogether $35,000,000 was spent on development.

Mr. NORMAN: It took that amount of money to make what is now a town of 10,000 people, supplied by the other parts of the province. It took that much money as risk capital, and we must encourage risk capital in this country in every way possible.

Hon. Mr. CRERAR: And besides that it provides steady employment for over 2,000 people.

Mr. NORMAN: Yes.

Hon. Mr. CRERAR: And wages paid are over $3,000,000 a year. According to the figures given by Mr. Shepherd they have produced $197,000,000 in that period of time.

The CHAIRMAN: I had the pleasure of an interview with Mr. Norman before the committee and he impressed me as a gentleman with a very true opinion of the importance of the mining industry. In introducing him I mentioned that I felt his address would be very interesting, and very informative. I am sure it has been even more than I expected, and more informative and interesting than this committee had expected it to be.

Hon. Mr. CRERAR: I think the thanks of the committee are due to Mr. Norman.

Mr. NORMAN: If I had had time I could have prepared a brief which would convey the matter much better than I have. It might be interesting to the members of the committee to know that I have just received a letter giving me information on the Holmsted Mine in South Dakota, which I have been trying to get for some time. It is the greatest gold mine in the American continent. It has been operating for seventy years, and has produced four hundred and forty million dollars. The value of the ore for the years preceding the war was $14. None of the ore has come from below the thirty-five hundred foot level. They have gone down to the depth of five thousand feet, against the depth at the Lake Shore of seven hundred and fifty. It is still the largest gold mine on the American continent, but the Hollinger comes next.

The CHAIRMAN: May I introduce Mr. A. W. Hawkey, Chemist from the Royal Canadian Mint.

Hon. Mr. McRAE: We just wish to chat with you, Mr. Hawkey, for a few minutes. What we wish to know is the procedure followed with respect to gold shipments which you get from the various mines.

Mr. HAWKEY: Each one is treated as an individual deposit or shipment. In many cases the shipment may be one bar or it may be up to five or six, depending on the output of the mine. When the gold comes to us it has to be melted, and it depends on the quality of the metal as the type and number of assay to be taken in determining the value of the gold.

If there is any segregation, or suspected segregation, dips are taken while the bar is molten; the bar is poured into moulds, and during the cooling of the bar there is a certain liquescence; it naturally does not all solidify at the same time; and therefore it is not a homogeneous mass. We have to take samples from the cut, as well as the dips which have been taken previously. We can use only a very small sample, ten grains, which is a bigger sample than is taken in the mines—usually 500 milligrams.

That sample is then assayed, and it must agree within a reasonable limit. Very often we have a certain amount of segregation that takes place during the cooling. After the gold has been valued it is paid for by the Mint, and upon being accepted it loses its identity and is placed with the other bars for refining.

I do not believe the refining process would be of interest to you gentlemen, but I may say that it consists of the passing of chlorine gas through molten metal; the fine gold is recovered and also silver. The fine gold bars are shipped to the Mint office and from there delivered to the Department of Finance.

I understand that I am expected to give some explanation of what we call overages in the Mint reports. As I have stated previously, the valuation of rough bullion is a practical method, and cannot be done with absolute accuracy. The measurement and weighings are done with a limited degree of accuracy. Perhaps before I proceed into this subject I should mention that in the melting there is always a loss in weight. Depending on the quality of the bullion, it varies from one-tenth of an ounce up to two ounces. In the case of lead and zinc, which are volatile, they carry very small gold values. These gases go into a chamber and ultimately are cooled and values recovered in what we call a cottrell apparatus. This was established in 1937 for the recovery from fumes and gases. At the same time very minute quantities of metal are absorbed into the pot, and despite the fact that we clean every pot thoroughly after cooling (it is scraped and cleaned as much as possible) it is physically impossible to remove those very minute particles which may be absorbed into the pot.

Then at the end of the year, after the gold is refined and shipped, we find the gold we have shipped plus the amount we have sold, including sweeps and that sort of thing, is more than the actual gold paid for at the time. As buyers we have to be sure that we are not paying for gold which is not contained in the deposits we are valuating. As I said before, each deposit is considered as an individual item and is paid for as such; and our values are as accurate as it is physically possible. If there are any engineers present here they will appreciate that in the assaying or valuing of any metal, whether gold or other metals, it can be done within certain limits of accuracy. I think I can give you certain figures on that point.

Before being sampled every deposit received in the mint is of necessity melted. During this process a loss of weight always occurs. The amount ranges from 0·1 ounce to 2·0 ounces per thousand ounces; the larger losses being with the cyanide bars, caused by the volatilization of some of the lead and zinc which invariably carry off gold and silver at the same time. Minute quantities of bullion press into the pot, and despite thorough scraping and cleaning they can be recovered only when the pot is crushed and added to the sweep. While it is impossible to credit these small values to the depositor, all are eventually recovered, mainly in the cottrell precipitator.

A considerable amount of the bullion which comes in is quite tough, such as that from Lake Shore and Wright Hargraves and other places. That metal on cooling does settle into a homogeneous mass and the sample taken from any portion of that would be representative of the deposit; but in the cyanide bars there is segregation, and we experience very great difficulty—sometimes melting them as many as three times—which causes us to pour into a number of bars, usually three to five, making some of the bars fairly small. We pour the first bar, quite small, the second bar much larger, the third bar small and so on; but we take a sample only from the smaller bars, because samples taken from the larger bars would not be representative of the quality. Those samples have to agree quite closely with the dips that are taken at the time the metal is molten. The assaying itself can be performed with a good degree of accuracy.

Now the question of discrepancy due to base metal comes up. The base varies from about ·5 per cent in the fine gold, and in the rough gold from about 5 per cent to sometimes as high as 25 per cent; and consists mainly of lead and zinc. The latter is quite volatile and causes liquescence and segregation of the deposit. What it really amounts to is that the overages are a penalty on the person who is sending in bullion which has a high percentage of base metal. We treat each of these deposits separately, and we have no complaints from the mines regarding valuation. It is only on a very rare occasion that there is any question raised with the mine as to the value of a deposit; they accept the report as submitted by us to them.

Hon. Mr. BEAUBIEN: They have no alternative.

Mr. HAWKEY: They can always question it. Sometimes they send in their assays to guide us, because in assaying gold it is necessary to have a primary assay; to facilitate that they do send us their assays, and there is no question about it.

In 1944 the overages amounted to ·53 per thousand.

Hon. Mr. CRERAR: How much would that be per ounce?

Mr. HAWKEY: ·53 per thousand—it is 1/20th of 1 per cent; that would amount to about 1·7 cents.

Hon. Mr. McRAE: In any event you have had no complaints from the depositors?

Mr. HAWKEY: No complaints from the depositors.

Hon. Mr. McRAE: The mines seemed to complain of your charge of 35 cents.

Mr. HAWKEY: That of course is not within my province.

Hon. Mr. McRAE: They also complain about overages.

Mr. HAWKEY: Yes, overages have been mentioned.

Hon. Mr. BEAUBIEN: That does not come within your province?

Mr. HAWKEY: The 35 cents has nothing to do with me.

Hon. Mr. BEAUBIEN: You are in the business of buying gold?

Mr. HAWKEY: Yes.

Hon. Mr. BEAUBIEN: I want to find out how much profit you had at the end of the year on the gold you bought.

Mr. HAWKEY: Those figures are variable. My most recent figure is for the year ending 1946, that is the year 1945-1946. There was a gain or overage, of 1,116·755 ounces of gold on 3,102,991 ounces. That is $44,920.77 on gold valued at more than $80,000,000.

Hon. Mr. BEAUBIEN: Would that be a fair average for the different years?

Mr. HAWKEY: It varies a little bit. It went up a little during the war years of 1940 and 1941. The point I was trying to make is that I am a mining engineer and it is my contention that bullion coming to a mint should be reasonably homogeneous. My contention is that the time for the removal of the base metal is before it is melted into the bar. They have it there in the form of precipitate that it brought down from the cyanide solution and it could be treated there much more cheaply. If that were done those overages would become smaller as time went on.

Hon. Mr. BEAUBIEN: You charge 35 cents an ounce?

Mr. HAWKEY: Yes, there is that charge.

Hon. Mr. BEAUBIEN: That covers your whole cost of operation in the mint, does it?

Mr. HAWKEY: No sir. There are charges for the treatment of gold. The mint charges for melting and assaying are $1 for the first 400 ounces or part thereof and 25 cents for each additional 100 ounces or part thereof. The charges for refining are as follows. When the deposit contains not more than 5 per cent base metal, 3 cents an ounce. When there is over 5 per cent but not over 10 per cent base metal, it is 3½ cents an ounce. When over 10 per cent but not over 15 per cent base metal, 4¼ cents; and when over 15 per cent but not over 20 per cent base metal, 5 cents.

Hon. Mr. BEAUBIEN: The charge of 35 cents is simply a commission?

Mr. HAWKEY: I do not know. That is set by the Department of Finance. It is a handling charge.

Hon. Mr. CRERAR: It is an arbitrary handling charge?

Mr. HAWKEY: Yes.

Hon. Mr. MCRAE: That is in addition to your charges for treatment?

Mr. HAWKEY: Yes.

Hon. Mr. CRERAR: You assess against the gold the cost of refining, and on top of that you have this arbitrary charge of 35 cents an ounce?

Mr. HAWKEY: Yes.

Hon. Mr. CRERAR: Have you any information as to what it actually costs you to market the gold?

Mr. HAWKEY: No. The Department of Finance looks after that.

Hon. Mr. MCGEER: What are the total profits of the mint?

Mr. HAWKEY: Do you mean the monetary profit or the profit from the so-called overages?

Hon. Mr. MCGEER: You do a number of things at the mint, and I suppose you have a cost basis and a net profit at the end of the year. Do you not make a statement showing that?

Mr. HAWKEY: There is an annual report, which would have that information.

Hon. Mr. MCGEER: Have you got a copy of that?

Mr. HAWKEY: I have not one with me.

Hon. Mr. McGEER: If your profits are high on your general operations, that would support the contention of the miners that the arbitrary charge of 35 cents should be reduced.

Mr. HAWKEY: As I say, the 35-cent charge is really not in my province at all.

Hon. Mr. HORNER: When they pan gold and use the cooking method, in what state of purity does the metal come to the mint?

Mr. HAWKEY: We get very little in the way of alluvial gold as such. Most of the depositors melt that. Most of it is pretty high; it runs from 75 to 80 per cent gold and 15 per cent silver.

The CHAIRMAN: The Western Quebec Mining Association claims that as a result of the overages the mint has $200,000 of their money. I understand from you that the value of the bullion which you receive is estimated on the result of the assays of the samples which you get. I also understand from you that your assaying is not an exact science, and that if there is any doubt at all you take the benefit of the doubt for the mint?

Mr. HAWKEY: Yes.

The CHAIRMAN: Could you not base the value on the final assay of the gold?

Mr. HAWKEY: No, that would be physically impossible. These deposits vary in weight from one or two ounces to bars of one thousand ounces, and we cannot treat them separately. We cannot even treat each depositor's shipment separately.

Hon. Mr. McRAE: Do you make a report to the mines on the fineness of the bricks they send in?

Mr. HAWKEY: Yes, they get the assay.

Hon. Mr. McRAE: Do I understand you to say that some of them are as low as 75 per cent?

Mr. HAWKEY: They are occasionally as low as 75 per cent, that is 75 per cent gold and silver. Of course the gold alone runs much lower than that. Most of the impurity is introduced at the time of the precipitation of the gold from the cyanide solution.

Hon. Mr. McRAE: Your overages amount to how much in dollars and cents? Let us take 1940, for instance.

Mr. HAWKEY: I have not the figures for 1940 with me, but I can tell you that in 1944 our gross receipts were 3,537,734.4 ounces.

Hon. Mr. McRAE: What did your overages amount to that year?

Mr. HAWKEY: To 1746.436 ounces.

Hon. Mr. McGEER: If you can get a statement on the overhead costs at the mint, I should like to go into that at another sitting.

The committee adjourned until Tuesday, May 28, at 10.30 a.m.

1946 SESSION

THE SENATE OF CANADA

PROCEEDINGS

OF THE

STANDING COMMITTEE

ON

NATURAL RESOURCES

ON

THE ECONOMIC VALUE OF METALLIFEROUS MINES IN CANADA

No. 4

TUESDAY, MAY 28, 1946

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Brief of the Prospectors & Developers Association.

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WITNESSES:

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Dr. Charles Camsell, CMG, former Deputy Minister of Mines & Resources.

Mr. W. H. Losie, Director of the Industrial Census, Dominion Bureau of Statistics.

OTTAWA
EDMOND CLOUTIER
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

STANDING COMMITTEE ON NATURAL RESOURCES

The Honourable J. J. DONNELLY, *Chairman*

The Honourable Senators

Beaubien (*St. Jean Baptiste*)
Burchill
Crerar
Davies
Dessureault
Donnelly
Duffus
Dupuis
Ferland
Hayden
Horner
Hurtubise
Johnston
Jones
Kinley
Lesage
McDonald (*Kings*)
McGeer
McIntyre
McLean
McRae
Michener
Nicol
Paterson
Pirie
Raymond
Riley
Robicheau
Sinclair
Stevenson
Sutherland
Taylor
Vaillancourt
White (34)

ORDER OF REFERENCE

EXTRACT from the Minutes of the Proceedings of the Senate, Thursday, May 2, 1946.

That the Standing Committee on Natural Resources be instructed to examine into the economic value of metalliferous mines in Canada and report to the House its findings, and to that end have power to call and examine witnesses and keep a record of its proceedings.

L. C. MOYER,
Clerk of the Senate.

MINUTES OF PROCEEDINGS

TUESDAY, 28th May, 1946.

Pursuant to adjournment and notice the Standing Committee on Natural Resources met this day at 10.30 a.m.

Present: The Honourable Senators— Donnelly, Chairman; Beaubien (*St. Jean Baptiste*), Burchill, Dupuis, Horner, Hurtubise, McDonald (*Kings*), McIntyre, McRae, Taylor, Vaillancourt, White—12.

In attendance:—

The official reporters of the Senate.

The Committee resumed consideration of the order of reference of the 2nd May, 1946, instructing the Committee to examine into the economic value of metalliferous mines in Canada.

A letter from Mr. E. V. Neelands, President, Ontario Mining Association, to the Chairman of the Committee, confirming a verbal invitation to the Members of the Committee to visit some of the mines and mining communities in Ontario, was read by the Clerk.

Dr. W. C. Clark, Deputy Minister, Department of Finance, was heard on the question of handling charges on gold, overages, and the currency exchange service maintained by the Government, and answered questions asked by Members of the Committee.

A brief from the British Columbia and Yukon Chamber of Mines was read by the Clerk.

A brief by the Prospectors and Developers' Association was read by Mrs. Viola R. MacMillan, President of the Association, who also answered questions asked by Members of the Committee.

At 1.00 p.m. the Committee adjourned to 8.00 p.m. this day.

At 8.00 p.m. the Committee resumed.

Present: The Honourable Senators Donnelly, Chairman; Beaubien (*St. Jean Baptiste*); Burchill, Dessureault, Duffus, Horner, Hurtubise, Jones, Kinley, McDonald (*Kings*), McIntyre, McRae, Paterson, Taylor, Vaillancourt, White—16.

Dr. Charles Camsell, former Deputy Minister of Mines and Resources, was heard on the development and influence of mineral resources on Canadian development.

Mr. W. H. Losie, Director of the Industrial Census, Dominion Bureau of Statistics, read a brief on Canadian mining in the national economy.

On Motion of the Honourable Senator Beaubien (*St. Jean Baptiste*), the Honourable Senators Crerar, Hayden, Donnelly, Hurtubise, McRae and Paterson were appointed a Sub-Committee to prepare a draft report.

At 9.30 p.m. the Committee adjourned until 11.00 a.m. to-morrow, Wednesday, 29th May, 1946.

Attest.

A. H. Hinds,
Chief Clerk of Committees.

65090—1½

MINUTES OF EVIDENCE

THE SENATE,

TUESDAY, May 28, 1946.

The Standing Committee on Natural Resources, instructed to examine into the economic value of metalliferous mines in Canada, met this day at 10.30 a.m.

Hon. Mr. Donnelly in the Chair.

The CHAIRMAN: Gentlemen, we will now proceed with the business of the committee. To start with, I would ask the Clerk to read a letter I have received from the President of the Ontario Mining Association.

The Clerk then read the following letter:—

> DEAR MR. DONNELLY, At the conclusion of our hearing before your Committee on Tuesday, the 14th instant, I extended to you and your Committee, on behalf of this Association, an invitation to visit some of the mines and mining communities of this Province.
>
> May I now say that the invitation was not presented entirely as a gesture of thanks to you and your Committee for the interested and courteous reception given to our presentation, but in part with the realization that your work in examining into the economic value of the metalliferous mining industry would be much enhanced by direct observation of operating mines and the communities which are built up around them.
>
> I have great pleasure, therefore, in not only confirming the invitation there extended but in suggesting further that should your Committee decide to accept same, we shall be very glad to have some one meet, at your convenience, such sub-Committee as you may set up for the purpose of making the necessary detailed arrangements.
>
> Yours sincerely,
>
> E. V. NEELANDS,
>
> *President.*

The CHAIRMAN: Gentlemen, in having this letter read it is not my intention that we should try to reach any conclusion in regard to it at the present time, but that we might discuss it among ourselves and be ready to deal with it when we meet again tonight at 8 o'clock.

We have present this morning Dr. Clark, Deputy Minister of Finance. He is a very busy gentleman, and I think we should give him the preference.

There is some question, Dr. Clark, in regard to the service charge at the Mint. The Ontario Mining Association in its brief presented to us claimed that the overages total about $1,000,000, and the Northern Quebec Mining Association mentioned $200,000, which would be only part of the $1,000,000 of course. The committee would like to get some information from you in regard to the service charge of 35 cents per ounce of gold.

Dr. W. C. CLARK (Deputy Minister of Finance): I understood, Mr. Chairman, that that is what you wanted me to say something about this morning.

This charge of 35 cents an ounce for handling and marketing gold is made at the Mint. The charge goes back to 1934, a time of very rapidly fluctuating exchange rates and of very great uncertainty. You want to know apparently whether the charge is justified, or whether indeed it has any basis at all. I think some of the briefs presented to you pointed out that 35 cents is higher than the actual cost of handling and marketing gold. Well, as we work them out the actual direct costs of marketing gold would run to a little over 16 cents, Canadian currency, per ounce. That is made up of express charges of 5·6 cents—I am using United States funds for the moment—packing, ·015 cents; commission to the Federal Reserve in New York to receive the gold, one-quarter of 1 per cent, which amounts to 8¾ cents; assaying and handling in New York, 1/10 of 1 per cent and 3/10 per cent respectively—or 14·49 cents in United States funds, which is equivalent, as I said a moment ago, to slightly over 16 cents Canadian funds.

Those are actual direct costs; in other words excluding any overhead charges. It is pretty difficult to figure what your overhead expenses are, but it is clear that they are substantial. The plant down there cost something in the neighbourhood of a million and a half dollars, and on the basis of present day values it would be worth considerably more than that. If you made an allowance for interest and depreciation on that investment, you could easily add 6 or 7 cents per ounce as the indirect charges due to captail. Then, there are the services of the officials of the Bank of Canada and the Department of Finance or any of the other senior officials who deal with the gold. Some people might place a very low value on such functions, but in most private businesses there would be something added for that kind of overhead cost and for accounting costs.

Another factor which was quite important at the time but is not, I am free to confess, so important today, is exchange. In the middle 1930's up until foreign exchange control was introduced in 1939, there were, as you know, rapid and substantial fluctuations in foreign exchange rates—in the price of American dollars in Canadian funds, and the price of sterling in Canadian funds. We found it advantageous sometimes to ship gold to New York, and sometimes to London. Depending on those fluctuations in sterling or United States dollars, you could get a better price in one or the other place. Normally the best market was New York, but occasionally it was London. It took some fancy stepping to operate on the sterling market so as to get your gold over there and sold and get your sterling converted back into Canadian funds on advantageous terms. Then again, if the government had not come into the picture in the way it did here, there would have been a considerable delay in the payment of at least part of the proceeds of sale. Take the United States as a typical case. As I said before, normally we were shipping the gold to the United States, and normally they were paying 90 per cent down. That did not come in until several days after the gold was received here at the Mint and shipped, and the last instalment might be several weeks later. In the early years the delays at times were very great indeed, but in all cases I think you will still find a delay of perhaps from ten days to two weeks or more before receipt of the last instalment. During that time of fluctuating exchange rates, it was, I think, very advantageous to the gold mining industry to be safeguarded against that risk, because you can see a fluctuation of 1 per cent in the exchange would be fully equal to this total service charge. What we did was to pay the mines which deposited the gold on the basis of the average of the prevailing exchange rates quoted to us at 11 o'clock each day during the week in which the shipment was made. We undertook the risks of loss on realizing the proceeds of that exchange. We might buy today and through the Mint, pay the mines for their gold on the basis of an exchange rate of so much, say a premium of 10 per cent discount on Canadian funds in New York. When we came to realize all our proceeds, particularly that last instalment, the rate might be down considerably. There was a chance of course that it would be the other way. We were willing to take that risk and get the mines paid promptly without that risk. As I have said, we always paid on the average of the buying rates for exchange during the week in which the shipment or the deposit was made at the Mint.

That, I think, was a considerable service at the time. Since we put into effect on September 15, 1939, the Foreign Exchange Control Act, we have maintained exchange stable right through until the present time. As long as we are doing that there is no risk on the part of a mine shipping and taking the exchange risk on its own shoulders.

Hon. Mr. HORNER: And there is no risk on the part of the Mint either.

Dr. CLARK: No; but the government takes that risk.

Hon. Mr. HORNER: Formerly when you took the basis of the week's rates sometimes you would lose and sometimes you would gain.

Dr. CLARK: That is right.

Hon. Mr. HORNER: But you do not know how it worked out on the whole?

Dr. CLARK: It would be a very complicated transaction because we have government needs to meet in London and New York all the time. Sometimes we just leave the exchange there instead of buying new exchange to meet our particular needs in those markets. So it would be absolutely impossible to work it out, I think. It may be averaged out pretty closely over that period; I do not know.

Hon. Mr. HORNER: But to the advantage of the Mint.

Dr. CLARK: It may have, it may not have.

Hon. A. L. BEAUBIEN: Of course, there is none of that risk now.

Dr. CLARK: No, since the government is taking the risk in another way by stabilizing exchange private traders can export and be always sure that they are going to be able to convert foreign currency into Canadian dollars at the fixed rate.

Hon. A. L. BEAUBIEN: Can they export direct or only through the Mint?

Dr. CLARK: They have to go through the Mint. I think I have covered perhaps all the points. First, you have the direct labour and material costs in handling, which run slightly over 16 cents.

Hon. Mr. HORNER: I do not know whether Dr. Clark will take advantage of the once famous excuse "It is not in the public interest"—

Hon. Mr. MCRAE: That is over with now.

Dr. CLARK: So long as it is on the civil service level I will not take advantage of that protection.

Hon. Mr. HORNER: Then I would ask you this question. In what proportion are we depositing gold in our own Mint as a backing for our present expanded currency?

Dr. CLARK: For the most part we ship the gold for sale. At certain times we have kept our reserves in the form of gold. This policy of exchange stability, keeping your Canadian dollar at 90 or thereabouts in New York, can only be maintained by maintaining reserves of gold or U.S. dollars. We have had to maintain very substantial reserves of gold and United States dollars. The reserves have varied a great deal. Sometimes they have come down to almost nothing, but latterly we have been able to build them up again.

Hon. Mr. MCRAE: Very much so latterly.

Dr. CLARK: I do not think the reserves are maintained at too high a level for a country subject to the risks that Canada is subject to with its international indebtedness and its interest in foreign trade to the extent it is. But the government has to maintain those reserves; they do not yield the government any interest return at all. Actually we have to borrow domestically, that is, from the public in Canada, and pay interest on the loans in order to be able to buy and hold the United States dollars and the gold that we do hold as reserves. These are the reserves that enable us to maintain our currency at a fixed level in terms of other currencies, you see, and so give to the private exporter and private importer an extremely valuable service. I think business generally has been willing to tolerate the irritations involved in foreign exchange control, because the advantage of having exchange stability, of the knowledge that when an exporter ships his goods abroad he is going to get the price he bargained for, instead of selling his production, lumber it might be, at so many pounds sterling today, expecting to be able to convert that at a certain figure in Canadian dollars, and finding tomorrow when he did convert it that the figure was something entirely different. That of course is a fairly costly service from the point of view of the government.

Hon. Mr. BEAUBIEN: Dr. Clark, the Ontario Mining Association and the Quebec Mining Association mentioned in their brief that they think the 35 cents an ounce is too high; they also mention the overages in the Mint here.

Dr. CLARK: Yes; normally they ship gold ores, gold concentrates and some more or less refined gold. We buy that on the basis of its fine gold content, refine it and sell it abroad. The Mint is really a manufacturing establishment. It buys a carload of gold concentrate on the basis of its fine gold content. That has to be determined by the assayers down at the Mint. The sample they take may run a little over or a little under. I understand they have been making a little, or getting a little advantage out of it.

Hon. Mr. McRAE: Could you tell the committee to what the overages amount?

Dr. CLARK: I thought I had a statement which Mr. Parkinson of the Ontario Mining Association gave, but I do not appear to have it.

Hon. Mr. BEAUBIEN: The reason I asked the question regarding the 35-cent charge is that rumours go around that the treasury has made about a million and a half dollars out of the gold transactions in the last fifteen, twenty or twenty-five years, due to overages.

Dr. CLARK: I think Mr. Parkinson makes a guess of a million dollars over a 32-year period.

Hon. Mr. BEAUBIEN: The mines claim that it belongs to them.

Hon. Mr. McRAE: You would think that statement to be reasonably correct?

Dr. CLARK: I think so. The figures were probably secured at the Mint. I think that is a normal situation in all mints where they buy on the basis of an assay test.

Hon. Mr. BEAUBIEN: Their attitude is that when they pay 35 cents an ounce to the mint, that any overages or any other money value should belong to them, instead of being allowed to go to the treasury. Should the mines not have that money?

Dr. CLARK: I believe a good case could be made out for the return of overages, but I do not think it is done by the mints of the world. They buy on the basis of an assay and take their chances.

Hon. Mr. BEAUBIEN: It is just a business transaction.

Dr. CLARK: However I do think there is a real argument there. I do not believe we want to make a profit on it. We should render a service on a basis that does not constitute a loss to the taxpayer of the country.

Hon. Mr. BEAUBIEN: Of course that overage goes into the consolidated fund? does it not?

Dr. CLARK: Yes.

Hon. Mr. BEAUBIEN: It is pretty hard once money has gone into the consolidated fund to recover it.

Dr. CLARK: It would be hard to get it back.

Hon. Mr. WHITE: Do the mines not submit an assay?

Dr. CLARK: No, they do not.

Hon. Mr. PATERSON: Might I ask Dr. Clark if depreciation and interest for overhead charges are chargeable to this service?

Dr. CLARK: Yes.

Hon. Mr. PATERSON: Would that amount more than eat up the return from the overage plus the 35 cents an ounce?

Dr. CLARK: No.

Hon. Mr. PATERSON: How would it work out?

Dr. CLARK: It depends on the rates to be taken. The money of course went in there at more than 3 per cent, but let us take it at 3 per cent—the rate of the last Victory Loan—and if we took the depreciation rate at 5 per cent on the present value I think you would get 6 or 7 cents an ounce added to the 16 odd, which gives a total of 22 or 23 cents. The remainder can only be explained by the indirect managerial costs, and direct overhead costs—the advantage of prompt payment; in other words, the elimination of losses of interest, which would be small. I am not trying to exaggerate the situation at all. Then there is the elimination of exchange risks which is not important at the moment when we are maintaining this kind of policy.

Hon. Mr. BEAUBIEN: Does the United States Mint follow the same practice?

Dr. CLARK: We have to pay the United States $8\frac{3}{4}$ cents for every ounce, and they do nothing for it.

Hon. Mr. BEAUBIEN: I am speaking of overages. If a gold mine in the United States ships its gold to the mint, does the mint follow the same principle?

Dr. CLARK: I have not got that information. Perhaps Mr. Losee may know.

Mr. LOSEE: No, I do not know.

Dr. CLARK: That information could be ascertained, but I would be surprised if any mint in the world would pay back overages.

Hon. Mr. HORNER: Since you have no knowledge of other mints in the world it is possible that they may not have overages; they may assay more liberally and may have losses?

Dr. CLARK: It is impossible to be exact; there would be overages or shortages.

Hon. Mr. MCRAE: Mr. Chairman, if Dr. Clark is through with his presentation I should like to ask him a few questions. I wish to take a shipment of ore from the mine and follow it through its various processes. It comes to Ottawa and is delivered to the mint free of transportation charges?

Dr. CLARK: Yes.

Hon. Mr. MCRAE: What is the charge at the mint for assaying, melting and refining?

Dr. CLARK: For melting and assaying $1 for the first 400 ounces, or part thereof, and 25 cents for each additional 100 ounces, or part thereof. (*b*) for refining: when a deposit contains not more than 5 per cent base metal, 3 cents the ounce; over 5 but not over 10 per cent base metal, $3\frac{1}{2}$ cents the ounce; over 10 per cent but not over 15 per cent base metal, $4\frac{1}{2}$ cents; over 15 but not over 20 per cent base metal, 5 cents the ounce.

Hon. Mr. MCRAE: Taking it on the average, what would the charges work out to per ounce?

Dr. CLARK: I do not know that I can give that information off hand.

Hon. Mr. MCRAE: Perhaps Mr. Losee could give us that information.

Mr. LOSEE: No, I do not know that.

Mr. HAWKEY: It would be between 4 and $4\frac{1}{2}$ cents per ounce.

Hon. Mr. McRae: What would be the total charge against the mines? That $4\frac{1}{2}$ cents would not include the mint charges, would it?

Dr. Clark: That would include the mint charges for refining and assaying.

Mr. Hawkey: I should think it would. A dollar for 400 ounces would only be one-quarter cent per ounce, so I should think that 4 to $4\frac{1}{2}$ cents would cover the average charges.

Dr. Clark: That is the charges for the melting, assaying and refining.

Hon. Mr. McRae: That would produce the brick which you ship to New York?

Dr. Clark: Yes.

Hon. Mr. McRae: That is very cheap.

Dr. Clark: Yes, it is cheap.

Hon. Mr. McRae: I pay for minting at the Seattle Mint an average on a small quantity of 4,000 or 5,000, of $11\frac{1}{2}$ cents, with no question of overage—that is the final settlement.

Dr. Clark: Do they not buy it on the basis of an assay test?

Hon. Mr. McRae: They assay your brick at the mint and deposit the money in the bank for you. The average cost including everything in connection with it is about $11\frac{1}{2}$ cents.

Dr. Clark: You would never know what the overages were.

Hon. Mr. McRae: You are supposed to get a square deal.

Hon. Mr. Horner: May I ask, does that $11\frac{1}{2}$ cents include selling?

Hon. Mr. McRae: The government takes it over.

Hon. Mr. Horner: That is the total charge.

Hon. Mr. McRae: The total charge. That is an average charge, but if the shipment is larger the charge is much less.

Dr. Clark: Is that a government institution?

Hon. Mr. McRae: Yes, it is the United States Mint at Seattle.

Dr. Clark: They charge a further $8\frac{3}{4}$ cents for handling.

Hon. Mr. McRae: They do not charge us for handling; they are glad to get the gold.

Dr. Clark: I do not know what they do for it, but they charge us that amount. That is the regulation.

Hon. Mr. McRae: The mine pays you in connection with minting approximately $4\frac{1}{2}$ cents?

Dr. Clark: Yes.

Hon. Mr. McRae: That covers everything; the brick is then ready for shipment to New York. Then in New York they have a small charge for assaying, about one-tenth of one per cent?

Dr. Clark: Yes.

Hon. Mr. McRae: But they do not re-melt your brick there?

Dr. Clark: No, I do not think they re-melt it. We ship it as a fine gold bar; and I do not think there is any re-assaying.

Mr. Hawkey: There always used to be.

Hon. Mr. McRae: This $8\frac{3}{4}$ cents you speak of is really a straight commission.

Dr. Clark: There is no service rendered for it.

Hon. Mr. McRae: Surely they are glad to get our gold; they should not penalize us $8\frac{3}{4}$ cents.

Dr. Clark: They do.

Hon. Mr. McRAE: I do not think they are entitled to it and I would object.

Dr. CLARK: They probably think $35 an ounce represents a pretty good deal from their point of view.

Hon. Mr. McRAE: The charges of 4½ cents plus 35 cents make a total charge of 39½ cents an ounce that our gold mines pay to get their product to the market.

Dr. CLARK: That is correct.

Hon. Mr. McRAE: Then we have the direct charge of 16 cents, including these various items mentioned.

Dr. CLARK: That is included in the 35 cents.

Hon. Mr. McRAE: You mention a plant costing a million and a half dollars. What plant would you require costing one and a half million dollars?

Dr. CLARK: You not only market it, you refine it.

Hon. Mr. McRAE: You refine it here?

Dr. CLARK: That is what we do here.

Hon. Mr. McRAE: This is the type of plant you are figuring on?

Dr. CLARK: Yes.

Hon. Mr. McRAE: This is a national policy and I am not adverse to it. I think it is necessary to place an obligation on all mines to ship their gold to Ottawa. But do you think it is fair under those circumstances to make any profit on it whatsoever?

Dr. CLARK: I do not know whether there is any profit actually made. I doubt whether there was in the 1930's.

Hon. Mr. McRAE: I submit, Dr. Clark, that if you permit the mines to export their gold they would probably get it handled at the United States Mint under 11½ cents.

Dr. CLARK: They would have to pay a commission of 8¾ cents, and they would have to pay the handling charges.

Hon. Mr. McRAE: I think you might call them agency charges.

Dr. CLARK: But those are all in addition to the 8¾ cents; and here all of those charges are included in the 35 cents per ounce.

Hon. Mr. McRAE: I fail to see, Mr. Chairman, why they charge 8¾ cents for accepting gold from us.

Dr. CLARK: That regulation has been in effect to my knowledge as far back as 1934, and it probably goes back beyond that.

Hon. Mr. McRAE: If you shipped to London, they would accept the gold subject to inspection.

Dr. CLARK: Yes, the fine gold bars.

Hon. Mr. McRAE: The stamp of Canada on a gold bar ought to make it good in any country.

Dr. CLARK: I think it should, and I think it does.

Hon Mr. McRAE: I think the Mint is doing good work.

Dr. CLARK: I believe it does.

Hon. Mr. BEAUBIEN: The gold is not refined in New York?

Dr. CLARK: No. They test it there, assay it. We do not do much shipping to London to-day and I do not know whether that business will ever return, but when we did do that we had a longer shipment, there was marine insurance, the freight charges were higher, I presume, and there was a greater loss of time before you got your money back.

Hon. Mr. McRae: I notice in the details of your 16 cents charge you have 5·6 cents for express. Is that correct?

Dr. Clark: Yes, 5·6 for express.

Hon. Mr. McRae: Gold is a pretty cheap commodity to ship.

Dr. Clark: That is exactly what it costs us. Those costs are exact, absolutely out-of-pocket cost to us.

Hon. Mr. Beaubien: Including insurance and so on?

Dr. Clark: Yes.

Hon. Mr. McRae: Gold is shipped in bricks weighing from 50 to 60 pounds, and is not a thing that can be easily stolen. I am surprised that the insurance is so high on it.

Dr. Clark: I suppose there are possibilities of gangsters using modern machine methods.

Hon. Mr. McRae: In this country a great deal of the gold is shipped from the mines to the Mint by insured and registered mail, is it not?

Dr. Clark: Yes.

Hon. Mr. McRae: That is a very inexpensive method, much cheaper than express?

Dr. Clark: I do not know what that rate is.

Hon. Mr. McRae: It is much cheaper.

Dr. Clark: It would be the Government rendering that service then.

Hon. Mr. McRae: In some parts it is done by air mail express, which is considered an advantage, having regard to the time it takes for gold to get in. Now, Dr. Clark, having regard to the fact that gold is sent to the Mint here under a national policy, which, as I said, I quite appreciate, do you think that in the circumstances any profit at all should be made on the transaction or that these extra expenses should be charged to the gold mines when they are complying with your order?

Dr. Clark: Well, my own feeling is that the intention should be to cover real costs. I do not think the taxpayer generally should have to bear any costs for service rendered; and by the same token, I do not think we should make a profit out of the gold mining industry, to which we are trying to render a service.

Hon. Mr. McRae: Carrying that a step further, do you think that you should charge interest on an investment of the Mint, for instance?

Dr. Clark: I think so.

Hon. Mr. McRae: Having regard to the fact that public utilities of that kind never do charge interest? The costs incurred by the post office, depreciation and so on, are never figured out in the rate of postage.

Dr. Clark: I think it is regarded as a sound social policy that you should be able to send a letter from one place to another at a low rate, in order to encourage correspondence, but I think that when the government is rendering a service to a private industry it should cover its costs adequately.

Hon. Mr. Horner: The post office renders a service to other lines of business free of all costs, and does not take into account interest on invested capital.

Dr. Clark: Because of what is believed to be the great desirability of having cheap postage rates.

Hon. Mr. Horner: Representations have been made to us here as to the necessity of doing everything possible to assist the mines, because of the fact that so much ore barely pays the costs of operating, and when a mine is operating it gives a lot of employment.

Dr. Clark: I think any assistance should be given in some other way, as a definite policy of encouraging expansion of the industry.

Hon. Mr. McRae: Coming back to the 35 cents charge, you figure that the direct cost is 16 cents an ounce?

Dr. Clark: Direct handling cost, yes.

Hon. Mr. McRae: Which includes that $8\frac{3}{4}$ cents to which I take strenuous objection. I think it is poor business, because I believe that except for regulations to the contrary the Americans would mint the gold for the mines on direct shipment, at their usual minting cost. I do not believe there would be any question about that, and I think the usual minting cost would be about 8 cents on large quantities.

Dr. Clark: No, I think the actual minting cost would be less than that. Their assaying charges are $1 a thousand ounces, as I have them here.

Hon. Mr. McRae: What surprises me is that the charges, so far as the Mint is concerned, are only $4\frac{1}{2}$ cents.

Dr. Clark: It may be that your $8\frac{3}{4}$ cents are included in that $11\frac{1}{2}$ cents that you speak of. That is a possible explanation.

Hon. Mr. McRae: That is a possibility.

Dr. Clark: Which means that their mint charges would be lower than ours.

Hon. Mr. McRae: Taking 16 cents for your direct expenditure in connection with the shipment of an ounce of gold, from the charge of 35 cents, that leaves a difference of 19 cents. You obligate the mines to ship the gold to Ottawa, and whether you ship it to New York or London after that is a matter in your hands. Why should you charge that up to the mines? They comply with your order in shipping the gold here, and you charge for minting it and refining it. After that it is entirely a matter for you what you do with the gold, whether you put it in the treasury or ship it out of the country. In those circumstances do you think it is fair to charge the mines anything more than the actual cost, at the very outside, of 16 cents?

Dr. Clark: Yes, I think it is. I think you have got to go beyond the direct cost of handling the gold and take in all your cost. Personally, I am in the treasury department, and I think we will never get proper control of governmental expenditures in this country unless we can make each service rendered to anybody stand on its own bottom. I am all for adequate and correcting accounting of all these things that are done by government, particularly where government engages in a sort of business enterprise. I think it should account in the same way as a business enterprise does. I believe, Senator, that you yourself would include your indirect costs in your total costs.

Hon. Mr. McRae: The object you have in view is not open to question, but why apply the principle to the gold mines and not to sundry other lines of business?

Dr. Clark: Well, we try to apply it wherever we can. You mentioned the post office. As to that, there is a belief on the part of the public generally that it is a sound thing to encourage communication, to have your postage rates very low. I think the Canadian public generally believes in that, and whether it is right or not, I accept that, but in other matters we try to apply the principle that I am suggesting here.

Hon. Mr. McRae: If it could be shown to you that the gold mines could ship their gold to the United States, if you permitted it, and have it minted there at a cost of 8 or 9 or $11\frac{1}{2}$ cents, as the case might be, would you think it fair to impose on them any additional cost on account of this policy you have put into effect which obliges them to ship all their gold to Ottawa?

Dr. Clark: Well, it depends on whether this policy is sound, in the general national interest, which would include the interest of the gold mines as well as that of everybody else. I have seen occasions in my short experience here when

I think it was very important for the public and for the gold mines that this policy be followed. I think that is worth paying something for, Senator, I really do.

Hon. Mr. McRae: That may have been all right in days gone by, but now we are on a new basis.

Dr. Clark: Are you prepared to underwrite that, Senator?

Hon. Mr. McRae: I would if you would take the regulation off, because I could sell the gold for much more than I could get here.

Dr. Clark: The world of the next few years looks to me to be pretty uncertain. I think we will find a recurrence of those things that have happened in the past. Any man is welcome to his own view on that. We hope that those conditions may never recur and we will try in every way to avoid them, but whether or not our hopes will be realized is pretty hard to tell.

Hon. Mr. McRae: Dr. Clark, I have been asking you a good many questions and you have answered them frankly, for which I thank you very much. There is another question that I want to ask. In view of the discussion, would you be prepared to reconsider this charge and try to get it down to your real out-of-pocket expenses?

Dr. Clark: I think, Senator, that that is a question which I as a civil servant should not speak on. That is a matter of policy on which the minister or the government itself should speak. Facts could be brought out and perhaps the government asked to consider this matter in the light of all the circumstances today, and I think it should then be a matter of government policy. I personally would not like to express an opinion on a matter like that.

Hon. Mr. Beaubien: The 16 cents you mention there includes the 8 cents commission?

Dr. Clark: Yes, it includes the $8\frac{3}{4}$ cents.

Hon. Mr. Beaubien: And the difference between 16 cents and 35 cents is the cost on the investment and so forth?

Dr. Clark: It is overhead accounting, loss of interest, exchange risk and that kind of thing. Some of the factors are very hard to measure, you see.

Hon. Mr. Beaubien: You do not think that is too high?

Dr. Clark: I do not know. If we could be sure that exchange risks were no longer going to be an important factor, perhaps one would agree that there might be some profit there.

Hon. Mr. Craig: The exchange rates are very important to the metal industry, particularly to gold mining, because without the 10 per cent discount many of our mines, perhaps the majority of them, would be out of business before long.

Dr. Clark: That is right. It is also important, I think, to any exporting industry that there should be stability, and I think most people find it difficult to realize that that involves a cost to the government. Reference has already been made to our holding of gold and of U.S. dollars as reserves of this country to make sure that we can continue to keep a stable exchange. Now, we have to buy that gold from the mines, and we have to buy that U.S. dollar exchange from people who have it to sell to us, chiefly exporters. We pay for it with Canadian dollars. Where do we get the Canadian dollars? We have to raise them in the same way as we raise every dollar that we get, by taxation or by borrowing. When we borrow money we have to pay, under present conditions, up to 3 per cent interest, so that is a cost to the government in the maintenance of that policy we have been speaking about. It is very hard to measure how much that cost is in dollars and cents. I am not passing judgment on the matter at all; I think it is a fair thing to bring to the attention of the minister and the government.

Hon. Mr. McDonald: Dr. Clark, may I ask if this $8\frac{3}{4}$ cents has ever been made a topic of discussion with authorities in the United States, and, if not, would you consider it worthwhile to have a discussion with them?

Dr. Clark: I do not think it has ever been a topic of discussion with them. I would be a bit hesitant to approach the United States government and suggest to them that a charge that is being made on their behalf is too high. I think that would be probably going pretty far for one government to suggest to another. Really, I do not think we should do that.

Hon. Mr. Beaubien: All that gold is shipped to the United States Federal Reserve, is it?

Dr. Clark: Yes.

The Chairman: Are we through with Dr. Clark? If so, on behalf of the committee I would like to thank Dr. Clark for coming here this morning and also for the courteous way he has answered all the questions.

Dr. Clark: Thank you, Mr. Chairman, and gentlemen.

The Chairman: I have here a brief from the British Columbia and Yukon Chamber of Mines, Vancouver, which organization represents the prospectors of British Columbia and the Yukon Territory. Mrs. Viola R. MacMillan is present, representing the Canadian Prospectors and Developers Association. As Mrs. MacMillan's brief and the British Columbia brief deal with the same subject, I would suggest that the Clerk read the British Columbia brief first, so that it may be considered along with the other one.

The Clerk of the Committee then read the following brief:

THE FOLLOWING SUGGESTIONS ARE PREPARED BY THE BRITISH COLUMBIA AND YUKON CHAMBER OF MINES, VANCOUVER, B.C., FOR SUBMISSION TO THE SENATE MINING COMMITTEE AT OTTAWA. IT IS BELIEVED THEY WILL GREATLY STIMULATE INTEREST IN PROSPECTING AND DEVELOPMENT OF NEW MINES IN CANADA:

Vancouver, B.C.
May 22, 1946.

1. Tax Deductions to encourage prospecting.

Section 8, Subsection (5) of the Income War Tax Act, states in part as follows:—"A taxpayer may deduct from the aggregate of the income tax under this Act and the tax under the Excess Profits Tax Act, 1940, payable by him upon his income for the nineteen hundred and forty-four taxation year, an amount equal to forty per centum of the contributions made by him during that year to associations, syndicates or mining partnerships registered or otherwise recognized under the laws of any province or territory of Canada and organized for the purpose of prospecting in Canada for base metals and strategic minerals, but no more than five thousand dollars may be deducted under this subsection and no more than five hundred dollars may be deducted in respect of contributions to any association, syndicate or mining partnership."

It is now unanimously agreed by all members of the mining fraternity that the above mentioned exemption from taxation on moneys spent on prospecting has done much to encourage new mineral exploration and development in Canada at a time when it was most vital. The British Columbia & Yukon Chamber of Mines feels that in order to encourage more young men coming out of the Armed Forces to make a study of mining and to take us prospecting as their life's work, and in order to assure these men that they will be able to obtain the necessary amount of financial backing to go into the hills, the above mentioned Section 8, Subsection (5), should be further extended, as follows:—

(*a*) The tax exemption should apply not only to prospecting for base metals and strategic minerals, but to all minerals and metals, including gold. Gold is one of Canada's most valuable assets and every encouragement should be given to the finding and opening up of new deposits.

(*b*) As provided in the existing Act, only contributions to associations, syndicates and mining partnerships are exempt from taxation. We now strongly recommend that this Act be amended to include prospectors financing themselves. The reason for this recommendation is that in British Columbia and Yukon Territory the majority of prospectors finance themselves from moneys they have earned by working during the winter months. These men spend their own hard-earned money in prospecting for new mineral deposits but are not permitted under the existing Act to take advantage of the exemption from taxation. This is unfair and has been the subject of much criticism among prospectors in Western Canada.

(*c*) It is also suggested the Act be amended to provide that the full exemption shall apply up to $5,000 where the contribution is made to only one association, syndicate, mining partnership, or individual prospector financing himself. The present Act permits no more than $500 deduction in respect of contributions to any association, syndicate or mining partnership. In British Columbia and Yukon Territory, as is no doubt the case all across Canada, there are many business men and others who are grubstaking prospecting parties going into isolated areas. Cost of such prospecting parties is high, in many instances including expensive air travel, and consequently the business man confines his grubstaking efforts to the one syndicate. Any man making such contributions to prospecting should be allowed the full exemption up to $5,000. Again, there are many individual prospectors financing themselves, who will spend thousands of dollars in search of new mining properties. These men also should be permitted tax deductions for the full amount of money spent up to $5,000.

(*d*) We strongly recommend that this Section 8, Subsection (5) of the Income War Tax Act, with the various changes we have suggested above, be immediately extended for a period of at least several years. Business men and others who are interested in assisting in the search for new mineral deposits will then be in a position to plan their grubstaking programs well in advance.

The British Columbia & Yukon Chamber of Mines favours the system of grubstaking prospectors by private enterprise and feels that given sufficient incentive many more business men and other persons will take an active part in this most important endeavour. We feel that while the Dominion Government will lose a certain amount of money in tax collections through granting these added exemptions, it will be compensated to a much greater extent through added revenue received from the new mines that will be found and brought into production. We feel that it would also prove much less expensive to the Government than the Government were to undertake a grubstaking program of its own.

2. *Mining Publicity.*

We recommend that the Dominion Government conduct a nationwide campaign to popularize the mining industry with the general public, particularly from the standpoint of employment and as a market for manufactured goods;

emphasizing the social and favourable living conditions in mining camps and in this way encouraging young Canadians to establish themselves and their families in mining communities. It is suggested that the Dominion Government prepare pamphlets telling the story of Canada's mining industry, what it means to the economic life of our country and describing living conditions, etc., in the various mining areas. These pamphlets could be distributed among such public organizations as the British Columbia & Yukon Chamber of Mines who would in turn distribute them among ex-service personnel and other persons requesting mining information.

3. *Housing Accommodation at Mines.*

It is now more important than ever before that more young Canadians be encouraged to accept employment in the mining industry. Many men coming out of the Armed Forces have signified their willingness to leave the congested centres of population and to work in the mines. However, the majority of them are married men and they are particularly anxious to secure adequate housing accommodation for themselves and families in the mining communities before accepting such employment. At the present time many mine operators cannot guarantee housing accommodation for married men and are unable to build new homes owing to the lack of building supplies, chiefly lumber. We strongly recommend that the Dominion Government do everything in its power to facilitate construction of new homes in mining communities as soon as possible.

4. *Prospecting in parks.*

We urge that the Federal Government permit prospecting and development of mines, but not smelters, in National Parks, as we believe mine operators would not in any way prove detrimental to the Parks but would be an attraction to tourists and assist in the development of these Parks.

5. *Mining Committees.*

We urge that on all committees arranged by Governments to deal with mining matters, as affecting the Province of British Columbia and the Yukon Territory, representatives of Chambers of Mines, as representing the prospectors, be nominated to sit on such committees and participate in all discussions.

6. *Teaching Mining in Schools.*

We strongly recommend that subjects relating to mining and prospecting be taught in public and high schools throughout Canada. It is felt that this will do much to interest young men and women in the further development of this country's rich mineral resources.

7. *Trails and Roads.*

It is recommended that the Dominion Government further extend its policy of assisting in the construction of trails and roads into isolated mining sections throughout British Columbia and the Yukon Territory. Making accessible these undeveloped mineralized areas is one of the most practical methods of encouraging prospecting activity and exploration of newly discovered mineral deposits.

8. *Geological Surveys.*

We urge that the Dominion Government intensify its program of geological surveys throughout Canada as we believe that this will do much to experite new mining exploration and development. We also suggest that geological maps and reports of new areas be made available to prospectors as soon as possible and that they be prepared in such a form as to indicate to the fullest extent and as simply as possible the most favourable prospecting sections.

9. *Aerial Mapping.*

We recommend that the Dominion Government continue its program of aerial mapping and that all existing aerial maps be made available at a nominal charge to prospectors and other persons active in developing new mining areas. mining areas.

FRANK E. WOODSIDE,
Manager,

British Columbia and Yukon Chamber of Mines
790 Dunsmuir Street, Vancouver, B.C.

Hon. Mr. McRAE: It seems to be a very modest recommendation, Mr. Chairman. It is unfortunate, I think, that the part of it dealing with taxation was not submitted to the Income Tax Committee.

The CHAIRMAN: Yes. Gentlemen, our next witness is Mrs. MacMillan, who represents the Prospectors and Developers Association. The information I have is that this association was brought into being by the energy and foresight of Mrs. MacMillan, who has been an active prospector herself and still flies around the country prospecting for gold. As a result of her organizing ability the condition of prospectors has been greatly improved. I am sure you will find Mrs. MacMillan's brief very interesting. Mrs. MacMillan.

Mrs. VIOLA R. MACMILLAN, (President, Prospectors and Developers' Association): Mr. Chairman and members of the Senate Committee on Natural Resources, it seems to me it is a long way back from the gold bricks you were talking about a few minutes ago to the prospectors and the early stages of mining. However, I will do my best to bring you back. I apologize for not having forty or fifty sourdoughs right here to support me in what I am going to present to you now.

I deem it a great privilege to be able to speak to this committee on behalf of our association. We feel that since this committee has been set up a great deal of constructive recommendations have been made, and that you will do something to meet those recommendations.

I want to say also, in reference to the chairman's remarks on the work of the association, that it has expanded over a number of years. I think this morning when he said I had been interested in prospecting for over twenty years he was inclined to doubt that I had been so long in this field; but as a matter of fact to be exact it is twenty-one years. Several of our members who are responsible for many millions of dollars' worth of mining in Canada today are on our executive. I could name a number of them. We have a very large executive—and I must admit they should be here today, but they are not.

We have discussed this brief that I am about to present at many of our meetings across Canada, and I was very much interested in Mr. Woodside's brief I have just read. I want to say that Dr. Clark who was here a short time ago, helped us to get the tax reduction on war minerals. Our association in 1941 found out that our prospectors throughout Canada were practically starving to death. There was a terrific battle between a few of us and the mining companies—I wish many of their presidents were here to listen to me say this—because those mining companies were not hiring our prospectors and were not contributing to their syndicates, and we found out there was a lag in development work throughout the country. I myself used to rave and rave because there would be areas from thirty to forty miles across without even a prospector or a geologist there season after season. These are facts. In many areas the prospectors had no money and were starving to death.

So when the war got bad in 1941 there were many of our prospectors not able to contribute much to the war. They lived in cabins throughout the bush, they did not have any money, they were too old to go into our war plants. What contribution could they make? The idea was conceived in Toronto: Why could not they look to someone else, why should not they be told what these war minerals were about? What about seeing the governments and asking them: Do you need chrome, vanadium, mica and the other war minerals? So a committee got on the train, came to Ottawa, and went right into the government and said, "Why can't our prospectors play their part in this war? Tell them what you want them to do and the best places to go to find war minerals, and we will get out and go to work." That is how our organization with its great membership has come into being. We are not a body of people out to criticize. We try to offer constructive recommendations, and it was after a tour of forty-five geologists from the Department of Mines here in Ottawa and from the provincial Departments of Mines of Ontario, Quebec and British Columbia that those men were loaned to us to speak to our prospectors. We had crowds of our prospectors at the meetings. I am sorry I did not bring pictures to give you a bird's-eye glimpse of them. They went into the various areas, and the geologists spoke to them and told them what was needed. The prospectors were in the habit of looking for gold, copper and lead, and they did not have any identification of the various war minerals. When we came back our prospectors were eager to meet the government's needs for war minerals, but they had no money.

So we got on the train the next night and came down to Ottawa and saw Dr. Clark and the Hon. Mr. Ilsley and the Hon. Senator Crerar, and Dr. Camsell, and they lent a hand and got through this present bill you speak of about our tax deduction. That was in 1941. We asked for an exemption of 40 per cent. We did not go the whole hog. We wanted an exemption up to $500 for $10,000 prospecting syndicates that the people throughout Canada could contribute to. We got this tax deduction through in eight days, but it only covered war minerals, it did not cover gold. But it was the stimulus that the country needed at that particular moment. It was flashed across Canada by the newspapers.

The boys had all gathered together and heard about the places to go, and they got new ideas, new visions, and they rushed into the various prospecting fields. With that enthusiasm and that tax deduction we got hundreds of our prospectors out the first time prospecting for war minerals. It was the thing that started this present boom that we have all across Canada today in which many new mines are being found. This all comes back to Dr. Clark and Senator Crerar helping us out, and also Mr. Timm for listening to our story and loaning us the men to put on his program.

I have got away from my start—

Hon. Mr. McRae: How many members have you got in your association?

Mrs. MacMillan: Our association is like all organizations, the members come and they go. They forget to pay their dues, and so on. At the moment we have 2,200 paid members. I venture to say we have about 90 per cent of the prospectors of Canada as members. We carry a mailing list of about 8,000 names, but the list includes geologists, bank presidents and anybody we can get interested in mining. Anybody interested in mining is free to become a member. Anybody here can be a member for $2.

Now I come back to this tax deduction. I am going to ask this committee to go further now and get it on all kinds of minerals. We would like to have the tax deduction up to $5,000 for any one syndicate. Mr. Woodside is quite right, but he does not go far enough. I realize that a lot of people would evade taxes by putting their money into prospecting syndicates. Anyway, the machinery is now set up in the various provinces.

Before we ask Mr. Ilsley's Department to give us this tax deduction we should get the provinces to give us one type of syndicate all across Canada. The Ontario Government last year gave us a syndicate up to $5,000 for prospecting. In that syndicate I would like to see that 70 per cent of the money raised must go into development, and there must be an accounting for the money to the unit-holders and to the government on the special from that Dr. Clark and Dr. Eaton and I worked out on war minerals, so there could be no chance for people to get $20,000 and put only $5,000 into the ground. Seventy per cent of the money so raised would be actually spent in development, not on travelling expenses, office services, selling, and so on.

I have said to our prospectors that I am sure if each of the provinces and the Dominion Government for the Northwest Territories—the prospectors in the Northwest Territories have no syndicate law and no company law, so they must organize under a Dominion charter, which is too cumbersome and too costly. There are no security regulations and so on in the Northwest Territories. But if the Dominion Government would give us that same type of syndicate for the Northwest Territories, the same type as we have in Ontario, and the other provinces would do the same, then Mr. Ilsley's Department could give us this tax deduction up to $5,000 per single person and the syndicate could raise $35,000. The reason we mention that sum is that we believe $35,000 is enough money to spend on the early stages of exploration, and then if you have something good you can go into a company. Hundreds of thousands of dollars are lost through companies formed on what we might call "moose pastures". The prospector gets 10 per cent interest, and he gets tied up in a pool and is discouraged; his ground is in the hands of the company and it stops there; $50,000 may come from the public, and only $10,000 goes into the treasury. If syndicates were formed for early stage development the public would get a 70 per cent run for their money.

Hon. Mr. BEAUBIEN: Where does the other $40,000 go?

Mrs. MACMILLAN: They can raise up to $35,000 in the syndicate.

Hon. Mr. HORNER: You were speaking of how the prospector took his pool, and you mentioned that $10,000 might actually go into the treasury. Senator Beaubien wants to know what becomes of the other $40,000.

Mrs. MACMILLAN: That is depreciation of capital stock. You have to pay the underwriters 10 cents a share for as many as 300, 400 or 500 shares.

Hon. Mr. BEAUBIEN: But you said you might raise $50,000?

Mrs. MACMILLAN: From the public, yes.

Hon. Mr. BEAUBIEN: And only $10,000 of that might be spent on the property?

Mrs. MACMILLAN: Or go into the treasury.

Hon. Mr. BEAUBIEN: The other $40,000 would be used up in commissions and other things?

Mrs. MACMILLAN: It would go into the people's pockets.

Hon. Mr. BEAUBIEN: It would go for brokers' fees and such?

Mrs. MACMILLAN: Yes.

Hon. Mr. BEAUBIEN: It is a large percentage.

Mrs. MACMILLAN: It might even be more than that. Another group may come in and say they will finance the company and take down a half a million shares at 10 cents, 15 cents and 18 cents; that means we start off selling stock to the public at 20 cents, 30 cents or 40 cents, whatever the traffc will bear; then the treasury of the company only gets 10 cents for those shares. I do not quarrel with that feature, but I do say that the prospector does not need to take so much money in the early stage of development. After you get one or two holes down and you have a body of ore, then let the public pay for it. You and I might contribute to these prospectors' syndicates for five or ten years and never get a winner, but we have got 70 per cent run for our money in the actual development. Then if we do actually pick a winner we make some money. We have to get some money or we cannot stay in the business.

The prospectors do not get all of the money raised from Mr. and Mrs. Public. In this present boom it has been easy for prospectors to raise money, but that source is now drying up very seriously and we are shortly going to be back to the syndicates again. But only a few of them have come through. I had a lucky one, in the Hollinger Mine; but a prospector may go his whole lifetime without success. The syndicates have not been very favourably accepted by the public because they have never been organized and run properly. The association has recommended one type of syndicate, and I have followed it through with a view to all provinces giving us the same kind. This business of one law in one province and another law in another province is not practical, because geology knows no boundaries. You may have one mine here and another one across the border, and you have to do such and such by a certain date for each one. We are trying to get a uniform law across the country.

Hon. Mr. BEAUBIEN: I take it that the laws that exist in Ontario are satisfactory?

Mrs. MACMILLAN: Yes. We have just got started on them. We have one objection only, and our present commissioner, Mr. McTague, was not present at the time the bill went through the December session. They are charging up to $1,000 as a qualification fee. Now $1,000 is quite a hardship as a qualification for a prospector. However, I quite agree with Mr. McTague, that there should be a registration, and it should be put under the Securities Act and so on. Some prospectors favour that view and others do not think there should be any restrictions at all. But since we take money from the general public I think there should be some restrictions. It is proposed to charge the syndicate $1,000 to qualify, which I think is too much; I think it should be only about $50.

Hon. Mr. HORNER: What service would that render, and to what use would the $1,000 be put?

Mrs. MACMILLAN: It would act as a bond in the case of misrepresentation, where somebody has to give back some money. I am opposed to the principle of restitution. I say if you are guilty you should be punished but there should be no restitution.

Hon. Mr. DUPIS: The fee is in good faith?

Mrs. MACMILLAN: Yes.

Hon. Mr. DUPIS: And if he ceases the claim and abandons the job his bond of $1,000 is refunded to him?

Mrs. MACMILLAN: No, it is not refunded to him, but to the syndicate. It is held there for the benefit of the syndicate members. For instance, if he raised $10,000 and finds nothing, in the past the prospector has never told the unit holders what has happened—very few did, but the majority of them were never heard from again. We have recommended that there must be a report go to unit holders telling the story of how much was spent, and how it was spent, and we have set up how it should be spent. If he did not comply with this request next year he would not get another prospecting syndicate.

Hon. Mr. DUPUIS: What is the regulation in Quebec?

Mrs. MACMILLAN: It is a partnership affair, where four or five may band together if they like.

Hon. Mr. McRAE: A partnership is a very dangerous thing?

Mrs. MACMILLAN: Yes.

Hon. Mr. McRAE: A man might be responsible for many debts.

Mrs. MACMILLAN: Yes, that is why syndicates were formed. Ontario is the only province we have been able to sell on the scheme.

Hon. Mr. DUPUIS: Have you a copy of that recommendation?

Mrs. MACMILLAN: I can supply that.

Hon. Mr. DUPUIS: Could you supply it?

Mrs. MACMILLAN: Yes, I think I have it covered in the brief.

Hon. Mr. McRAE: Might I ask Mrs. MacMillan if she would care to say anything about the precedent which would be set up by the creation of a $5,000 exemption to prospectors? I am thinking of the Department of Finance. Would they not consider that a dangerous precedent was being set up there?

Mrs. MACMILLAN: They do, yes. Their argument is what if the lumber industry asks for it, and insurance and so on. Our reply is that there is no other industry like mining. In the lumber industry you get so much lumber and if you keep it in where it is dry it is worth so much. In the mining industry you may go for years and find nothing. You may find something but it may be taxed so high that you cannot afford to do anything with it. So the mining industry cannot be compared to any other. Take for instance the figure of three million dollars; how many prospectors would have to be in the field at $5,000 to raise three million dollars? It would take more prospectors than we have out to-day.

Hon. Mr. McRAE: How many active prospectors have we?

Mrs. MACMILLAN: I would say at the most 1200 prospectors in Canada. We have more than that who call themselves prospectors, but they are just fellows who pull the moss off the ground. For instance if $2,000,000 went into prospecting—which would be a lot of money—one mine alone would pay that back. The tax exemption that Mr. Ilsley gave was a great story for the prospectors; it was very timely and it spurred interest across Canada. We must continue to spread that interest.

Many of our prospectors are growing old, and we are going to lose a great many at one time. That is another serious question which I have studied very closely. This plan of a lecture program conducted across Canada has interested many new boys into the business. We do not want to see them come in for one or two years and then be starved out. We want these syndicates to be effective when the real need comes in another year from now. We in Toronto alone put out about 200 new prospectors, as did Port Arthur, and the B.C. Chamber Mines have had a training course . There are about 700 or 800 new prospectors entering the prospecting field.

It is these finds that create interest and keep the industry going. It must be remembed that out of approximately 150 mines which we have in Canada over the whole period of mining history, that 55 new shafts have gone down as a result of prospecting during the last two years. This marvelous situation did not just come about by itself. It has come from the investment of Mr. and Mrs. Public. If the President of our producing mines were here to-day I would say in front of him that they have shareholders who wait until something is discovered on the ground before they become enthusiastic about it. Somebody has to put up this money for early stage development. They do not like to refer to it as "blood money" but that is what it is. It is risk money.

Hon. Mr. HORNER: My difficulty has been that the fellow who did my prospecting did it in the bar rooms and not out on the ground itself.

Mrs. MACMILLAN: I grant you that is true in some cases, for which I am very sorry. But this syndicate scheme is so set up that if we can get it functioning properly we can bring those fellows under the system. These fellows cannot be blamed altogether. I have started many of them on their way again, and I would not be where I am to-day if I had not done so. Now let us train the new fellows under the new system. I think we must get those syndicates through first before we can ask for the tax deduction, because otherwise there is no way of controlling it.

Hon. Mr. McRae: Would Mrs. MacMillan read her brief, and then we can question her as we go along?

Mrs. MacMillan: Then I would start at page 7.

Hon. Mr. McRae: We will take it as having been read up to page 7 because you have explained it.

Mrs. MacMillan: Yes. I will start in at page 9 under the heading "Security Regulations".

> Dominion-wide uniformity of security regulations is highly desirable insofar as possible within limits imposed by local provincial conditions. At present the regulations governing the sale of securities, formation of syndicates, formation of companies, etc., etc., differ in bewildering fashion from province to province. Neither mining nor mining people to-day are confined to any one province. The differences of regulations from one province to another are so dangerously confusing that they threaten orderly development and we are convinced that any steps which can be taken towards uniformity would be highly desirable.
>
> To that end, as suggested by this Association in a brief dated March 22, 1944, an interprovincial conference of the several attorneys-general was held in Toronto. This Association is strongly of the opinion that such meetings provide a most promising if not the only manner by which mutual understanding can be reached. Furthermore this Association believes that such meetings should be continued and expanded and that other meetings should be held at regular intervals—at least semi-annually—until such time as agreement is reached and an orderly system developed for the whole of Canada.
>
> In particular the Association strongly recommends Dominion-wide adoption of the following regulations concerned with vendor's stock in newly-formed companies:
>
> (*a*) That ten per cent of the vendor's share of stock be automatically released from pool immediately on formation of the company as is done in Ontario to-day.

In the other provinces the stock is tied up in pools until it does or does not make a mine, and this scheme does not give the early stage syndicate people a chance to do anything.

The Association also recommends,

> (*b*) That thereafter one share of stock be released to the vendor for each share of Treasury Stock sold, until all the vendor's stock is so released.
>
> (*c*) That this release be automatic, i.e., that application by the vendor for such stock should not be necessary. Notice of its release should be sent to him immediately the stock becomes available under those regulations.
>
> (*d*) Such released stock always to be subject to pooling arrangements between the vendor and the underwriter, at the vendor's discretion.

That means that when the company notifies the government that so many thousand shares have been taken away from the treasury, and a notice goes to the government or to the trust company that so many thousand vendors' shares can be released on an automatic basis.

Hon. Mr. McRae: Pro rata.

Mrs. MacMillan: It is pro rata; they have the list of who gets it, and they just release it; they get out on a pro rata basis.

We are also asking for an exchange listing in Ontario. The province of Quebec has a curb exchange, but it does not cover unlisted stocks. You have noticed in the papers the "over the counter market". On this "over the counter market" you may call one broker who quotes a stock at 23 cents, while another broker may put it at 19 cents. You may be down in Windsor or up in North Bay or some place else, and the market may change. Also a few people have decided what you shall do for this committee and if you have a company just try and get on where your stock is quoted. They contend that the public should know daily whether that is a firm bid or whether it is not, and how many shares of stock are traded that day on the stock exchange. We think that such an exchange would serve to supply all the statutory information—shall we call it a "post"; so that if you are in Windsor, North Bay or any place you can get in touch with the post who can tell you how much money is in the treasury and what other information you may require. If there is one post provided where Mr. and Mrs. Public can get the information it will save thousands of dollars and provide the proper information.

Hon. Mr. BEAUBIEN: In other words, you mean in a clearing house?

Mrs. MACMILLAN: Yes.

Hon. Mr. BEAUBIEN: As they have at the Grain Exchange?

Mrs. MACMILLAN: Yes, and at the Stock Exchange.

On page 11 of the brief the Association deals with income tax deductions. I have already dealt with that, so I will pass along to the next subject, General Taxation (Federal), on page 12:—

(5) *General Taxation (Federal):*

(*a*) The Federal Tax burden, particularly in the case of junior mines, has become almost confiscatory. These mines, having recently come into production and not having cash reserves, have been taxed to the limit during the war years. A great part of the money paid in taxes should have gone into development work or been put in reserve until such time as post-war labour conditions permit such work. This artificially reduced shortage of cash reserves inevitably penalizes the junior mines.

(*b*) Excess profits were instituted as a war measure to prevent industry from making undue war profits. Mining costs have jumped sharply while in gold mines the price of the product has remained the same. Thus with higher costs the profits are reduced or eliminated. Another result is that because of higher costs incurred by higher wages, and increased price of material, along with the lower man-power efficiency and all topped off by the excess profits regulations, millions of tons of low grade ore have been left in the ground, in many places never to be mined. It must be remembered that most of the large producers of to-day started as very small mines and that it took many years, even when taxation and costs were lower, to bring them up to their present production. Therefore if our junior mines are to expand and our older mines to continue the burden of taxation must be lightened.

In any remarks that we have made under taxation we recognize that the country had to raise enough money to carry on the war. We believe the Finance Minister of Canada did a wonderful work, but are of the opinion that sufficient recognition may not have been taken of the fact that a mine is a wasting asset and sometimes it might appear that capital, in addition to profits, is being taxed. The second point is that mines should not be taxed out of existence because they are of primary importance now that the war is over. The old mines should be preserved in good order and prospectors encouraged to find new ones.

It should be noted that every increase in taxation has the effect of decreasing the ore in the ground. Carried to extreme this could mean that Canada's mineral deposits could be taxed to extinction.

The Association recognizes that the matter of taxation requires exhaustive and extensive study, and we are aware that the Ontario Mining Association and other Mining Associations across the country have spent a great deal of time and effort in compiling statistics and making a thorough investigation into the subject. We would urge careful consideration of their recommendations with regard to taxation.

Hon. Mr. McRae: Mrs. MacMillan, may I ask just what you have in mind as to what might be done for the mines?

Mrs. MacMillan: One of the things that could be done is to leave off all excess profits taxes until the original capital is paid back to the shareholders. If it costs one or two million dollars to bring a property into production, there should be no taxes on the company until the shareholders get back their original investment. Charging excess profits taxes and taking money that should have gone into development is not fair to the mines, and many of our mines may have to close as a result of that policy. I know of a property in the Little Long Lac where they had to pay the government $200,000. To get that money they had to go into their reserves, so they were not able to sink a shaft and continue with their developments. In fact, they may have to close down. By all means there should be no taxes until the original investment has been paid back.

Hon. Mr. McRae: Up to I think 1943 there was tax exemption for three years. Would you consider a return to that system helpful?

Mrs. MacMillan: Yes, but the exemption should be for at least five years.

Hon. Mr. McRae: You are going a long way in asking for the capital back.

Mrs. MacMillan: Well, a mine just nicely gets going in five years; you get down to your first level. At the moment I am interested in a property, and it is right on the border of being a mine or not a mine. If we are going to be taxed before we get the development under way, I suppose we will not be able to build a mill costing a million and a half dollars. Unless they get relief, I do not see how some of the mines in Quebec can possibly continue operating.

Hon. Mr. Beaubien: On page 12 of your brief you say "Millions of tons of low grade ore have been left in the gound, in many places never to be mined." From the briefs presented by the Ontario Mining Association and the Quebec Mining Association I got the impression that now that gold is $35 an ounce very little low grade ore is being left in the ground.

Hon. Mr. McRae: As I understand it, when the price of gold was raised from $20.67 to $35, everything that showed any profit was mined, but now as costs are going up the mines have to leave low grade ore in the ground.

Mrs. MacMillan: Taxation is the biggest problem. The history of many of our big producers shows that if they had been subject to these high taxes they would not have been able to get started, and in that event we never would have had some of our most prosperous mines. We believe that many of these low-grade properties will develop into big mines. It is something like raising a delicate child; it may later become very healthy. We must not be shortsighted on our tax policy in Canada, because after all we have the most wonderful mining country in the world.

Hon. Mr. McRae: You think that three years' exemption from taxes on new mines would not be enough, that there should be an exemption for five years?

Mrs. MacMillan: Definitely five years.

Hon. Mr. Horner: Or would you prefer having exemption until the original capital investment is returned?

Mrs. MacMillan: Yes.

Hon. Mr. McRae: That would be preferred, of course, but that is asking a lot, perhaps too much.

Mrs. MacMillan: Everywhere I go I meet people who say, "I put some money in a mine and I lost it." If they could be sure that once a mine is shown to be good they would be able to get their money back, just as if they had bought a Dominion Government bond, there would be more money for developing mines.

Hon. Mr. McRae: I do not think the government lost any money under that law which exempted new mines from taxation for three years. You feel that the exemption should be allowed once more, but that it should be extended to five years. Would it meet the situation in a satisfactory way if new mines were exempted from taxation entirely for three years and for a given period thereafter, say seven years, subject to only half the rate imposed on established mines?

Mrs. MacMillan: Yes, that would be co-operation.

Hon. Mr. McRae: I am trying to suggest something that might be more acceptable to the government than what you have proposed. If new mines were altogether exempt from taxation for three years and then had to pay only half taxes for the next five years or some such period, that would be very helpful to them?

Mrs. MacMillan: Very helpful.

Hon. Mr. McRae: Do you think it would be sufficient?

Mrs. MacMillan: No, I do not.

Hon. Mr. Horner: You say that until the original capital is returned there should be no tax, because if dividends are taxed before the capital is returned that is a tax on capital?

Mrs. MacMillan: That is right.

Hon. Mr. Dupis: Is it not true as a general rule that only a very small percentage of prospective mines yield anything at all? One witness told us, I think, that out of twelve hundred companies only nine develop into paying propositions. That means that 1191 out of 1200 mining companies will never pay taxes. So do you say it would be just as well to eliminate all taxes on mines?

Mrs. MacMillan: What the government would lose in taxes would come back, many times over, through increased employment and so on.

Hon. Mr. Dupis: And in the development of other industries in the mining districts?

Mrs. MacMillan: Yes. Another thing that has to be considered is that today many people are investing their capital in South America, South Africa and other countries which offer prospects of a much greater reward than Canada does. About a month ago I happened to be in New York, talking to some very wealthy people who, but for our taxes would be willing to put their money into Canadian mines; but after having summed up the tax situation they have decided to make their mining investments in other countries. I think this committee should study what other countries are offering capital. It is not only Americans who are putting their money into the mines of countries other than Canada, but Canadians are doing the same thing. It is all right to say that Canada's gold production is so much a year now, but why can it not be ten times greater? We have got the mineral resources if we will only develop them. We are blessed with greater part of the Precambrian shield. Why not give the mining industry every encouragment and let it grow? The money we lose in taxes will come back in other ways.

Hon. Mr. McRae: The other day I tried to get some enlightment on the progress that has been made in prospecting methods in the last generation. Would you say that the chances of making a discovery are greater today than they were twenty years ago?

Mrs. MacMillan: Yes, indeed, many times greater. Some people will not agree with that, but I know I am right. It is not that the day of the old prospector is over. It will never be over, for we need him to pull the moss off. But he is better qualified and equipped today to work the structure. The finds, the outcrops, are mostly known, but when the various geological surveys get enough men on they will map out some new breaks. Today we are doing more detailed mapping and we are co-ordinating our detailed mapping with our magnetometer work. I wish I had brought with me a map of a swamp area in Red Lake; it is a masterpiece of work done by the magnetometer. Some holes were spotted just recently and results are coming. We are trying to encourage prospectors to use the magnetometer in swamp areas.

Hon. Mr. McRae: Then there are improved mechanical methods, such as diamond drilling; and trenches are dug by bull-dozers, instead of by hand. There is all that sort of thing.

Mrs. MacMillan: Yes. And instead of having to dig a trench out by hand, we have gasoline pluggers now.

Hon. Mr. Dupuis: Mr. Chairman, I think it is appropriate for this committee to have a look at both sides of the picture. I understand the witness is advocating exemption of mines from taxes for a certain number of years as a means of encouraging investment in the mining industry. Is there not a danger that if too much money is invested in that industry it would be at the expense of other industries in the country? I remember that in the days of the Yukon gold rush of 1898 hundreds of young men left my home town to go to the Yukon, taking with them considerable amounts of money, some having $2,000, others having $5,000, and so on. Some people sold their farms or their businesses in order to go out there. Only a few of them made anything out of it, after years of struggle and hardship, and the others came back with no money at all. All the money that they took away with them to invest in mining was lost to their own industries, whether agricultural or commercial. If we gave too much encouragement to the investment of capital in the mining industry, at the expense of other industries which have to pay taxes, would that not be detrimental to the development of the country as a whole?

Mrs. MacMillan: No, it certainly would not be. The money invested in mines is never lost, in the sense of being burned up. It is in circulation, and while a farmer may lose some here and a factory may lose some there, it comes back in the shape of increased purchases of agricultural and manufactured products. I cannot see how the money is actually lost. It may be lost to individuals, but it will remain in the country. Let me refer to a mine in the Porcupine area, which I am familiar with. There is one swamp of 160 acres—just imagine, the size of a farm! It is a high grade mine, and it has already paid close to $7,000,000 in dividends.

Hon. Mr. Dupuis: You are talking of one mine in a thousand.

Mrs. MacMillan: But there are many more.

Hon. Mr. Horner: The witness has brought up a very good point that in the days of Klondike gold rush the people of Canada thought that every gold mine they could pick up made money. Today investment money has dried up, and there is great difficulty in getting people to invest even a reasonable amount in a prospect at the present time. The people entirely understand that they are liable to lose their money, and there is consequently a smaller amount going into development.

Mrs. MacMillan: That is quite true.

Hon. Mr. Horner: There is not the same danger of money being taken from the investors today.

Hon. Mr. Beaubien: I know people who have lost their farms on the grain exchange.

The CHAIRMAN: May I cite an instance within my memory of the Yukon gold rush days? I remember three farm labourers who lived about five miles from my home who went up to the Yukon and brought back a total of $150,000. They developed Bruce county to some extent with the money they brought back. However I know there are many who lost money.

Hon. Mr. DUPUIS: I remember a man from my district by the name of "Peacock" who stole a carload of horses to go to the Yukon territory. He was charged, and left the country with some other young chaps and came back with a million dollars.

Hon. Mr. MCRAE: Actually, Mr. Chairman, I think the Yukon district has added greatly to the wealth of Canada.

The CHAIRMAN: Yes, it has.

Mrs. MACMILLAN: Another thing that should be kept in mind is an attempt to attract some of the millions of dollars from the United States. I think lower taxes on our producers would attract millions of dollars from the United States, which is now available provided we get in there soon. The United States have had a great era of prosperity, and before they get their money tied up in securities with other countries, let us do everything possible in Canada to attract that money into our development.

We appreciate what the provinces are doing in the way of geological services. We believe that the Dominion Government Geological Service should be expanded about five times its present size. We should like to recommend that the Geological Survey Departments get their money and know what their appropriations are going to be the year before. At the present time the chief geologists are not able to plan their future. I doubt if some of the departments to-day know how many men they can send into the various areas. Those geologists should be in the field before the leaves come on. If you get out there before the leaves come on, from a high hill you can see the country for miles around; if you are later getting into the field you cannot do as much work. One recommendation this committee should make is that the Dominion Government should do a great deal more work in the province of Ontario. It is up to the province and the dominion to co-operate in this matter. In the province of Ontario we have two geological departments, and whether the fault lies with the Ontario government or the Dominion government we do not know—I think they are both guilty.

On page 15 of the brief we are asking for a research job to be done by the National Research Council, on the deposition of ores in the older camps. In the case of the Porcupine camp each mine knows its own structure and so on; but let the world know it and particularly let the prospectors know it. There should be many more such camps near the Porcupine camp. We believe that an old experienced geologist, who is a good detail man, should be put in there from the National Research Council to study the depth, and how deep that ore is going to go. This is a matter of urgency; we are anxious to get a man in there this year. The Porcupine camp alone will be a study of ten or fifteen years.

> It is recommended that field research be conducted in each of the older mining camps. Many of the problems concerning conditions of mineral deposition can be studied only in camps in which mines have been developed to an extent sufficient to allow full and proper examination. We are thinking, for example, of the mines of Porcupine, Kirkland Lake, and Sudbury. In these camps mine workings are now measured in hundreds of miles. Structures which control ore deposition can be, and in some places are being, worked out in great detail and an adequate study of such camps would provide data of fundamental importance, both from academic and practical points of view. The importance of such research to other mines and prospects in Canada cannot be stressed too strongly.

> Prof. E. L. Bruce, of Queen's University, in a paper presented at the March 1946 meetings of the Prospectors and Developers Association, suggested a method of studying the problem of depth of ore deposition in Canadian gold mines. The application of this method would require intensive study of deeply developed mines. Its importance, if it could be verified, to the mining industry would be enormous. This is but one example of many which could be cited to indicate the need for field research.
>
> It is suggested that one of the most fertile fields for such an examination would be the Porcupine Camp with its well-established mines. It is felt that this work should be regarded as research and that as such it should fall into the province of the National Research Council of Canada. The Association urges that a programme along this line be put into effect this year. Work on such problems is long overdue and the Association wishes to go on record to the effect that this work be started at once. It is pointed out that the Association considers that the Geological Survey Of Canada has on its staff men of the high calibre and wide experience necessary to fit them pre-eminently for such work.

The research work is really of a major nature; we do not take our mining or our great ore structures seriously enough in Canada. We have geologists here and there around the country, but let us get down to the problem of "how deep is this ore going to go?". Our mining industry is just in its infancy, and it will be wonderful to look back in ten or fifteen years from now and see what that great study will have produced.

In many districts in Ontario we have recommended resident geologists and have asked that the programme be extended to put one in Yellowknife and Whitehorse.

I will not read the brief on the educational programme, but we are out for a publicity programme. We believe the dominion government should set up a committee on publicity for mining and bring out all the facts. As you well know we had "Mining Day" inaugurated in March of last year. We are hoping that you will recommend that it be a legalized day. The reason we chose the month of March was because we believe it suited the prospector. In the summer months he is in the bush, or just home and sick of the business. In March he is just dusting off his pack sack and thinking of getting out on that vein again. The Right Honourable Mr. Mackenzie King, Mr. Glenn and several university presidents have backed our mining day scheme and we are hopeful that it will be a national day, and we believe we can have all the other countries of the world pay tribute to Canada's mining industry. Every school child will be taught something of mining on that day, or during that week; there will be radio programmes paying tribute to the mining industry, and it will all roll up into a grand educational programme.

Hon. Mr. BEAUBIEN: But the day could be set aside without making it a national holiday?

Mrs. MACMILLAN: It could be brought about in that way, and let the prospectors if they want to, make it a national holiday.

I think our association should go on a lecture tour programme every five years, asking for support from the different provinces and the Dominion Government, in an effort to keep up this interest and to provide new and up-to-date data for the prospectors. In our programme which helped spread prospecting across Canada we went into the mining towns and had meetings as large as 400, 500 and 600 people. Many men came in from the bush to get new up-to-date data. We would have a long light set up across the wall, which it took a geologist two or three months to prepare, showing the up-to-date data on it. It was much easier for a prospector to sit there and absorb that picture than try to get the information out of technical books. We are hopeful that such a scheme will be encouraged, and that someone will have enough energy to go on with it.

Hon. Mr. BEAUBIEN: I think Mrs. MacMillan would be the best one for that job; she appears to have plenty of energy.

Mrs. MACMILLAN: When we first started out a few prospectors would get into a corner and suggest that we were there for no good purpose. I remember very well going to Flin Flon. One of the men in the hotel said there would be nobody at the meetings. I said, "Why is that?" They said, "Well the government never sent any men up here for a good cause; they are just here on a big drunk." I said, "That is not so because my crowd is not even drinking." I rushed out and talked with the man at the radio station and was permitted to give a fifteen-minute talk over the air. I did not know then what I was going to say, but I assured the people in my talk that if they came out we would have something constructive for them. They came out in crowds. They tell me that the old-time prospectors threw their hats in the air and they said, "At last we have somebody speaking for us." It is very encouraging to know that many of these finds followed closely behind our programme.

We are suggesting that the mining recorder's office provide better accommodation. In most of the offices there is just a long counter, and one is obliged to discuss very important claims with some promoters or other people standing by listening to the conversation.

We are definitely and positively against the granting of concessions. Some may argue that in the case of Labrador and far off areas it is all right to give large tracts of land to mining companies, but we are definitely against any concessions.

Hon. Mr. DUPUIS: Do you know from whom these concessions are obtained?

Mrs. MACMILLAN: Yes, the Quebec government has granted concessions in the Labrador area that have big iron deposits. In some cases it might look as if it would be hard for independent companies to get up there, but the scheme of giving thousands of acres of land and tying it up for as high as one hundred years is the principle that we are opposed to.

Hon. Mr. DUPUIS: I agree with you.

Hon. Mr. HORNER: One of the dangers in such a programme might be that a company which was producing a similar type of ore might hold its concession in reserve.

Mrs. MACMILLAN: That is quite true.

Hon. Mr. BEAUBIEN: Do other provinces besides Quebec grant concessions?

Mrs. MACMILLAN: Ontario attempted it, and gave a short concession to one company, but we made such a fuss about it they soon got out of that. Our country is too young to tie up these lands, and we want to encourage our young people in the mining industry. It used to be that we could hold three claims under one licence in one district, then it was five and now it is up to nine. In Quebec one can get 200 acres on one licence in one district. Some of our prospectors suggest as high as 28 claims; but I say that they are better off with a small piece of land if they go out and develop it. Look at Lakeshore today. The whole Kirkland Lake camp could have been one mine, which would have been a sad affair. How much better it is to have five, ten or twenty claims in a small district. But what about the bulk of the thousands of acres of land tied up for many years?

Hon. Mr. MCRAE: I take it that you are satisfied with the present arrangement in Ontario which provides for nine claims?

Mrs. MacMillan: Yes, in one district. We have ten or twelve districts, and we can all stake in these districts. That is plenty for any one person.

We are hoping that the government will see fit to give free transportation to bona fide prospectors. This question has been argued, and I can appreciate the government's point of view on it, that we should not ask for it until we can classify the men who make a living from prospecting only. In Russia I understand that the prospector has a button and travels and gets his meals free.

Hon. Mr. McRae: But that is all they get.

Mrs. MacMillan: Not today; they are getting a bonus as soon as they get the ground.

Hon. Mr. McRae: But the mine belongs to the country.

Mrs. MacMillan: Yes, the mine belongs to the country.

Hon. Mr. Beaubien: The prospector does not get any dividends out of his button.

Mrs. MacMillan: We were very glad to hear the announcement by Honourable Mr. Glenn concerning a road into Yellowknife, and also for the power given to us there. We still must press forward for roads to be extended from Yellowknife north. There is a very good field to be opened up, but roads are badly needed. We definitely must have somebody assist us in getting more roads in Ontario; Quebec is not so bad. Quebec will provide the roads as soon as you have the ore, but we are having a hard time getting roads in Ontario. There is an announcement on the Red Lake road and on the Lightning Lake road, both of which are long overdue.

We are proposing that your committee study the problem of the large tracts of land in the Eastern Townships in Quebec, which have been sitting idle for many years, and which come from old grants prior to 1882. There are thousands of acres of land on which nothing is being done. We think you should study that problem and make some recommendation.

Hon. Mr. Beaubien: Is that territory held by concessions?

Mrs. MacMillan: Well it is a sort of a land grant.

Hon. Mr. Horner: The original land titles provided that the minerals belonged to the person who held the title.

Hon. Mr. Beaubien: Is that the seigniory system?

Hon. Mr. Dupuis: No. In the Eastern Townships land was granted to people coming from the United States and England and they had the right to underground minerals

Mrs. MacMillan: It runs into thousands of acres, and something should be done about it.

Hon. Mr. Dupuis: Would you tell the committee if there is any chance of good prospecting in the Eastern Townships?

Mrs. MacMillan: Yes.

Hon. Mr. Dupuis: Would you have any idea of the kind of minerals available?

Mrs. MacMillan: All types; there may be lead deposits there; maybe gold and copper. The committee could get the Department of Mines to give them a report on it. I know we were down there one year looking for copper and so on, and there were thousands of acres tied up for many years, and in some cases they cannot even find the heirs. In Ontario there are many claims held by veterans of the Fenian Raid and the Boer War. These also should be studied, and we should like to recommend that the Ontario Department of Mines submit to your committee a report of how many thousands of acres of prospective ground is tied up under these veterans plans on which no development work has been done.

Hon. Mr. McRae: Mr. Chairman, these lands are entirely provincial. Any inquiry on our part would be ineffective.

Hon. Mr. Dupuis: This committee has no jurisdiction; such information would have to be submitted to the provincial governments.

The Federal Department of Mines—

The report of the Department of Mines and Resources, including Report of Soldier Settlement for Canada, for the Fiscal Year ended March 31, 1943, shows that this department has an extraordinary large and complicated make-up. Although called the Department of Mines and Resources, it is made up of six branches: mines and geology; lands, parks and forests; surveys and engineering; Indian affairs; immigration; soldier settlement. These six branches are under the jurisdiction of a single Deputy Minister and a single Minister. Only 11 per cent of the appropriation for the Department was allocated to mines and geology branch, almost exactly the same as the amount allocated for the single item of Indian education.

This Association has experienced with gratitude and appreciation the cordial co-operation of the officials of the Department of Mines and Resources. However, the vast amount of work imposed particularly on the Deputy Minister and the Minister by reason of the excessive size and complexity of the department permits them to devote only a fraction of their time to mining affairs. Since mining is, as a primary producer of wealth, second only to agriculture in this country, and since it will become increasingly important as the 80 per cent of Canada fit for mining is opened up, we are strongly of the opinion that its affairs merit, indeed demand, the full-time services of a Deputy Minister and a Minister. We recommend that a Department of Mines be formed, divorced from such extraneous matters as Indian Affairs, Immigration; Lands, Parks and Forests and Soldier Settlements.

Ministers of Mines in either the Federal or Provincial Governments should have only one portfolio to occupy their attention, that of the Department of Mines.

Our association would like to recommend, since there is no Deputy Minister of Mines, that Mr. Timm who now is head of the Department, be appointed. We feel he is fully qualified for that position.

Diamond drilling has been going on for years, and only in the province of Quebec do we understand that a report of the work is kept. Thousands of dollars are lost each year by reason of no record being kept of the drill course. We should like to recommend that every company doing diamond drilling report to the Department of Mines. Hundreds of thousands of dollars are lost each year by no record being kept of the drill core.

Hon. Mr. Dupuis: Did you say there is no record in Quebec?

Mrs. MacMillan: As I say, Quebec is the only province where a record is kept. We would like a recommendation from this committee that it must be compulsory for every company doing diamond drilling to report it to the Geological Department of the province or the Dominion, and that then a geologist for the department check that core, not check the company's geologist's opinion, and put it in the records for the next generation to follow.

Hon. Mr. Horner: Is that done in Quebec?

Mrs. MacMillan: Yes, they are trying to do it there. It is the only province. It is something that should be done, because hundreds of thousands of dollars are lost each year because no such records are kept.

I would direct your attention to page 29 of my brief headed Extradition Treaty. There may be an extradition treaty with the United States come before the Dominion Government again. One was up a couple of years ago. We are asking this committee to watch any such extradition treaties as they affect mining. At the moment the treaty proposed last year has been set aside, but we understand it will be up again very soon.

We should like to touch on airplane services. We hope your committee will encourage more transportation by air into the Northwest Territories, and that applications for charters will be encouraged for operating to out-of-the-way places.

In closing, may I extend an invitation to your committee to visit some of the places the Prospectors' Association would like to take you to when you come to the north country. We don't want you to go only to the big producing mines and see the gold bricks. We want you to come and see some of the junior prospects today that will be the big mines tomorrow.

I thank you.

The CHAIRMAN: We thank you, Mrs. MacMillan, for the information you have given us and also for your invitation.

Hon. Mr. McRAE: I want, Mr. Chairman, to thank Mrs. MacMillan for the very able presentation she has made on behalf of the Prospectors and Developers Association.

The CHAIRMAN: Hear, hear.

Hon. Mr. McRAE: We are very much impressed by the brief, even though Mrs. MacMillan had to come here all by herself to present it to us.

The CHAIRMAN: Does the committee wish to meet again today?

Hon. Mr. McRAE: Dr. Camsell says he will be able to attend at 8 o'clock tonight and give us a talk on mining. We will try to get through with him and a couple of other witnesses we have here. I think in view of the arrangements made we shall have to ask the committee to meet at 8 o'clock tonight.

The CHAIRMAN: Is that agreeable?

Some Hon. MEMBERS: Agreed.

The committee adjourned until 8 o'clock tonight.

The committee resumed at 8 p.m.

The CHAIRMAN: We have Dr. Camsell, the former Deputy Minister of the Department of Mines and Resources, and I am sure you all will be glad to hear from him.

Dr. CAMSELL: Mr. Chairman and gentlemen, I understand that this Committee has already been provided with a great deal of detailed information with regard to the mining industry of this country; so, in talking it over with Senator McRae I felt I should touch upon the broader aspects of the industry and its influence on the development of this country. With that in mind, I have given some thought to-day to what I should say to you.

The mining industry has had a tremendous influence on the growth and development of this country. This is only a reflection of the influence mining has had throughout the world on the progress and development of other countries. The history of mining in Canada is a long one, and the influence which mining has had throughout that history has been very great indeed. It has, as you well know, always been a pioneer industry, and it has extended to the most remote parts of this country. It has preceded any other kind of industry, except perhaps the fur trade, and sometimes agriculture. But, generally it might be said that in the early stages of a country's development, mining has preceded all other industries. I always like to think that the development of the mining industry in Canada has acted much as a catalyst in a chemical reaction. It has stimulated growth just as a catalyst accelerates the changes in a chemical mixture. The process in being repeated again and again in different parts of Canada.

Copper was perhaps the first metal produced in this country and its mining goes back long before the entry of the white man into Canada, when Indians produced copper on the shores of Lake Superior. You might not call it mining. Also, up in the Arctic regions the Eskimos and Indians used copper picked out of rock to make implements. Such mining earned a small tribe of Indians the name of Yellowknives. It was not so much the base metals such as copper, lead, zinc, etc., that influenced the development of this country as the primary metal, gold. Throughout the history of the world gold has been responsible for development wherever it has been found. In the case of Canada, I will refer to its influence as I go on. Years ago gold was discovered in the rivers of British Columbia. It is credited to the white people, but the Indians were the first to mine gold, and sell it to the Hudson's Bay Company. Gold was found in the Fraser River in 1858, and the first rush went up there at that time. One of the members of the first party to ascend Fraser River lived at Yale, B.C. up to a few years ago. I got to know him very well. His name was Ned Stout. He went up the Fraser River in 1858 and died only a short time ago at the age of one hundred years. These old gold miners were a long lived people. Later they pushed on into the Cariboo Country, which resulted in a tremendous rush of people. Then they pushed on to the Cassiar. Then there was the discovery of the Klondyke in 1896.

Farther south in British Columbia, the Rossland Camp was started about 1894. In my experience the Rossland has died twice, and recovered each time. I will refer to that again.

The scene in mining then shifts to eastern Canada. I think an important feature of it had to do with the discovery of Cobalt in northern Ontario at about the beginning of this Century. It is difficult indeed to appreciate the value of the discoveries in the Cobalt Camp to the industry of Canada as a whole. Its value is apparent even to-day. It was there that many of the men who are now presidents of the mining companies in the country got their experience in what is called hard rock mining.

Six or seven months later gold was discovered in the Porcupine area in northern Ontario, and operations in that area have had a tremendous influence on agricultural development.

I was in the country and took a sample from what proved later to be the outcrop of the Hollinger mine, but it did not run very high. A little later Bill Wright staked claims in the Kirkland Lake area and so that camp came along. Still later the Lake Shore was staked.

The scene shifts to the province of Quebec. It shifts to the gold belt of western Quebec and the discovery of the Noranda deposits, although the Sullivan was found before Noranda. Then, we moved west into Little Longlac, and Red Lake Areas in Ontario, and finally into Manitoba.

At present the interest as far as gold is concerned, centres around the Yellowknife area in the Northwest Territories, although there is a great interest in some of the older mining camps in Ontario and Quebec. The discovery of gold has usually been followed by the development of base metals—copper, lead, and zinc and finally, by what is called industrial minerals. As the centres of mining developed, the other industries developed around them. To illustrate; the T.N.O. railway followed the discovery of Porcupine and Kirkland Lake. The mining operations also had an effect on the development of agriculture, which is now very well established in that country.

Shortly after the discovery of Noranda I was invited to Quebec city to discuss with the Cabinet of that day the question of whether or not to embark on a large scheme of colonization in western Quebec. They wanted to know something of the possibilities of mineral development in that region. We did not know much about it at that time, although we had done a great deal of work on it. In a general way I outlined the possible quality of the region. Noranda and Sullivan were the two principal mining properties of merit. Our geological parties had obtained sufficient evidence to appraise the mineral possibilities in that belt. With that information, the Province of Quebec proceeded on its colonization program, and you know what it is to-day.

I want to refer for a moment to a statement made some time ago which I think illustrates the point I am trying to make, and perhaps you will pardon me for referring to these notes because of the limited time I had to prepare my statement. The statement, which I will quote, deals with the influence of geology on the development of Canada.

"The Dominion has been lavishly endowed with mineral wealth and the lure of gold, far stronger than that of land, has lead the miner over obstacles that daunted the land seeker. The discovery of alluvial gold in British Columbia brought the first influx of white men—the Cariboo rush—into what had previously been a forbidding wilderness; later discoveries of lodes of copper, gold, silver, lead, and zinc in the southern parts of the province laid the foundations of great industrial plants at Trail, and lead to the rapid development of the magnificent fruit lands of southern British Columbia."

"In the Canadian Shield, also, the settlement of the clay belt in northern Ontario and Quebec has been tremendously speeded up by the silver mines of Cobalt, the gold of Porcupine and Kirkland Lake, and lastly by the copper-gold ores of Noranda; as witness the country in the vicinity of the mines. Where twenty-five years ago there was almost solid forest, broken only by the small isolated clearings of half-discouraged settlers, cultivated fields now stretch for miles and the country-side is dotted with prosperous farmsteads, villages and towns that need not fear comparison with any in old Ontario."

"This same quickening impulse is now being felt in northern Manitoba, as a result of the development of the mineral deposits at Flin Flon and Sherritt-Gordon; and a province whose interests were but recently almost wholly agricultural, is now rapidly rounding out its economic activities and attaining a well-balanced economic structure. Knowing as we now do the mineral possibilities of our hinterland there is little reason to doubt that the story of southern British Columbia and of northern Ontario, Quebec, and Manitoba will in the future often be repeated."

And, it is being repeated to-day in that northern country.

Now, just a brief statement on the power of gold, and some of the influences of mining on the development of this Dominion. I want to say something about our present position insofar as resources are concerned. It has been said that this period—this Century—is the metallic age. Possibly it will pass, and there is evidence it will so, into what may be called the age of synthetic materials. But to-day is the metallic age, and will continue to be so for some time to come. It probably began fifty or sixty years ago in its present form, and in 1886 when statistics were started, the total mineral production of Canada was valued at about $10,000,000. In recent years it has been in the neighbourhood of $500,000,000. What is more significant is the increase in the production rate from two dollars per capita at that time to the present rate of about $45.00 per capita to-day. That only illustrates the general growth in mineral production throughout the world. Canada's case is not a peculiar one. Again I want to quote from my manuscript.

> The chief cause for this rapid increase is to be found in the astounding rate at which the world's demand for minerals, and especially metals, has

> increased during the present century and to the fact that Canada has in the Canadian Shield and the Cordilleran region some of the largest potentially productive mineral-bearing areas in the world, with their reserves as yet scarcely touched. Canada's mineral production already growing faster than that of the world as a whole, will grow faster still as the industrialization of the world proceeds, and the depletion of the resources of older countries throws the burden of keeping up the supply on the newer ones. Our railways will keep pressing northward, not to open up agricultural lands, but mineral-bearing areas; and Canada's mineral deposits in the days to come will play a far bigger part in the economic life of the Dominion than they do now.

That statement was made some years ago and I think it still holds true. There is one point in that connection. The Canadian Shield, with an area of almost 2,000,000,000 square miles, comprises about half the total area of Canada. Of course, one has to be careful in a broad statement as to the mineral value of the area, and I don't want to mislead the people who are listening to me, because not all parts of the Shield contain the kind of rocks productive of or likely to be productive of minerals. Another factor is the distribution of minerals, which is very erratic. Take the case of our coal resources. As you know, these resources are in the west and in the east while the principal markets are in Ontario and Quebec. The erratic distribution of minerals in relation to principal markets applies to a varying degree to all mineral producing countries. In order to get distribution to the people of the nations who need them there must be trade in mineral products. Take the United States. It is one of the greatest producers of minerals. Its largest production is of coal, iron, and oil. But in a group of say about twenty-eight minerals important in industry, the United States is short in about seventeen and has to obtain its supplies from outside. It appears to me that these deficiencies will increase rather than decrease. Take lead. I understand the lead consumption of the United States amounts to about 1,000,000 tons a year. It produces about 400,000 tons and thus must obtain 600,000 tons elsewhere. Much of that comes from western. Canada. But, the United States will have to look to Mexico and to other countries for the rest. I think I am right in stating that Canada has the most diversified mining industry in the world. It is deficient in only a few of the aforementioned 28 minerals. We are deficient in coal, oil and iron—not because we haven't them, but because of the erratic distribution in relation to the principal markets, and it is easier to get them from the United States than from domestic sources. That applies particularly to coal and to oil. Our oil resources are not developed to the extent they will be in the future. Our resources in iron are not fully developed, but will be when we continue to explore and develop the iron fields in this country. Our base metals position is particularly strong. If we consider the British Commonwealth of Nations, and the British Empire as a unit, we have strength in minerals greater than in any other political unit in the world.

I will refer to that in a moment. I should like now to quote a paragraph from my address to the Royal Society of Canada in 1931.

> Canada's mineral industry has shown extraordinary growth in the years since the war, and it is certain that no portion of the British Empire has contributed more than Canada in increasing the strength of the Empire's mineral situation. Production has grown so that in many directions we have become dependent upon foreign markets for the maintenance of that production, and for its future growth. In the main, our surplus has gone to our nearest neighbour, the United States, but with the growing height of the tariff walls of that country, we have been forced to seek an outlet for our mineral products in many other countries.

> Statistics show that we have at the moment a capacity to supply a greater variety of minerals than any other part of the Empire, and there is no doubt that if the need arises that capacity could be increased in many directions.

That statement was made some years ago, and, I think, it still holds true.

There is another factor that has had a bearing upon the mineral industry, and that is the number of pioneer railroads that were built. The railroad running through southern Quebec, for instance, was responsible for the development of the asbestos deposits. The Canadian Pacific Railway was responsible for the discovery and development of the Sudbury deposits; and the T. & N. O. was responsible for the Cobalt developments. But to-day all those pioneer railroads are dependent for their continuing profitable operation largely upon the mineral resources that are produced along their route. Insofar as our outlook is concerned, we simply have to take the statistical method and plot the curve of progress, as I have indicated broadly, and project that into the future, and I think we are quite justified in doing so.

In my view there are two sources of supply for the minerals that we will need in future. The first source that we usually think about is new territory in outlying portions of Canada, particularly in Quebec and Ontario; in the Yellowknife and other areas in the Northwest Territories, in the northern parts of British Columbia, and in Yukon. In all those places we have evidences of resources that can be developed, provided transportation can be secured. Gold of course does not require so much in the way of transportation, because bullion can be readily transported; but for the transportation of iron ore or base metals something more is required.

Then again I have always had considerable faith in the oil resources of western Canada. The more we know of them the more we appreciate how difficult it is to find oil fields, because of the peculiarities of structure-folding and faulting and so on—but there are very strong evidences of oil occurring all the way up from the international boundary along the eastern slope of the Rocky Mountains. The same favourable conditions extend right through to Yukon and the Arctic Circle. There is no doubt in my mind that one of these days we shall be developing oil fields in western Canada away beyond what we have to-day.

The other possible source of new supplies of ore is in the intensive operation of the fields that we know of to-day. There is an old saying that mines die hard. Well, mines do not die so hard, but mining camps die hard. I know of many cases where mine owners years ago threw up their hands but the fields are still operating. Take the case of Rossland. It was booming in 1894, but when I went out there in 1906 it was dead. What revived Rossland was what revives many other fields, namely an intensive study of the origin of the ore deposits. A geological survey went in there to make a study of how the ores occur, and when the secret of the ore deposits was found the operators went to work and applied the knowledge. Rossland died again later on when it was thought we had exhausted all the ores that had been discovered. What put Rossland on its feet once more was the application of new knowledge with regard to the treatment of ores that were produced. So there are two factors there; geological knowledge applied to the search for ore deposits, and technological knowledge applied to the treatment of the ores.

The old Hedley camp is one I had to do with myself. I think if Senator Farris were here he would know what I am talking about. The camp was discovered in 1902. I examined it in 1907 and 1908, and in 1908 the manager said to me: "The property is dead. We have drilled all over the place and cannot find any more ore." The property was sold for $1,000,000, but it never ceased working; it is still working to-day, about forty years after the decision was reached that the mine was dead, and it has some life ahead of it yet. Sudbury is another camp that has a lot of life left. Take the Rio Tinto in Spain. It was operated by the Romans two thousand years ago and is still operating.

Now I want to draw your attention to a recent book, written by a man who I think is the outstanding mining author in the world, T. A. Rickard, of British Columbia. Senator McRae probably knows him. In this book, entitled "Romance Mining," Mr. Rickard expresses very much the same thoughts I have tried to state to-night. With your permission, Mr. Chairman, I want to read a few extracts from the book.

In the concluding part he says:—

> Civilization was developed on a metallic basis, not with respect to money, for credit is the expression of an advanced state of society, but as regards implements and instruments, machinery and transport, facilities of living and of communication, all of which required the use of metals. The need of them and the consequent market for them induced enterprising men to probe the hills and scour the deserts in search of the mineral deposits that are distributed with such perplexing irregularity in the outer crust of the earth.
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> The story of mineral exploration and racial migration is peculiarly the heritage of the English-speaking peoples. The search for gold and other more useful metals is the motif that runs through the drama of British and American history, more particularly during the last hundred years. Even in its barest outline it serves to suggest that the miner has been the pioneer of industry and the herald of empire.

That is a subject which Rickard and I have discussed from time to time. His point is that the mineral industry is the spear-head of economic development. The way he puts it in his book is: "Trade follows the flag, it is true, but the flag follows the pick."

I will read a few more extracts:—

> A great era of mineral exploration came with the discoveries of gold in Australia and California. It was the prelude to a world-wide migration, an enormous expansion of trade, a tremendous advance in the arts of life, and the spread of industry to the waste places of the earth.

Speaking of the miner, he says:—

> He was the scout far ahead of an army of development. Trade follows the flag, it is true, but the flag follows the pick.

He goes on to give the story of California, Australia, South Africa, and West Africa, after which he says:

> And now, for our last illustration, we go to Canada. British Columbia was a neglected colony and the western part of Canada was a forlorn wilderness until the miner found gold and sounded a bugle-call to industrial development. The discoveries in California, in 1848, prompted search northward. In 1850 gold was found on the Klamath River, in northern California, and then on Jackson Creek in Oregon. In 1858 rich placer ground was disclosed on the Fraser River in the southern part of British Columbia, and a rush ensued. In a few months 30,000 men had arrived, mostly Americans. In the same year the Crown Colony of British Columbia came into being, and in 1866 it was joined to Vancouver Island, which was the first British possession on the Pacific coast. Meanwhile richer gold finds had been made farther north, up the Fraser River, in the Cariboo district. Again the excitement of winning wealth brought thousands of eager men northward. To feed the new

communities it was necessary to start farms and gardens. The mines needed lumber, therefore sawmills were established. Fishing, followed by canning, became another profitable industry. And so the new country became a home and a workshop for men and women, the founders of orderly communities in the mountains and on the seashore. British Columbia was detached by distance from the old Canada of the St. Lawrence watershed; far-seeing men therefore felt the need for a political link by means of confederation and a physical link by means of a transcontinental railroad. The Dominion of Canada came into being in 1867, to be consolidated by aid of the Canadian Pacific Railway, which reached Vancouver in 1886. Such were the results of finding gold in the mountain stream of the West; such was the work of the miner. Since then the Canadian hinterland has undergone widespread exploration and settlement in consequence of many and various mineral discoveries, but the great valley of the Yukon was slow to be unveiled.

He proceeds to describe the development of the Yukon Territory. Of the Klondike, he says:—

This event opened a new province to human industry. Within a year big steamers were ploughing the waters of the Yukon, a railway had been constructed over the coast range, the telegraph had linked the northern frontier with the nerve-centres of the world, and new communities had arisen in the very heart of a vast solitude. It was not long before agriculture was started close to the Arctic Circle and children played where lately moose and caribou had roamed at will. Once more, the miner had started the springs of life and called a new world into being.

and a little farther on:—

The lure of gold was the incentive to most of this pioneer work. The reason is obvious. Gold is a metal occuring in nature in a nearly pure state; in its alluvial form it is readily separated from the river gravel; and even from its matrix in the rock it is extracted by simple methods. moreover, it commands a high price, and a free market, so that it can be transported in small bulk and sold in unlimited quantity. Gold mining, therefore, has been the prelude to the exploitation of the base metals existing in complex ores. The simple operations of the gold miner have preceded the establishment of economic conditions favourable to the more complicated business of winning the other metals.

* * *

Thus the British and American commonwealths alike have been established in the track of the miner. He made the great West a national heritage; he conquered the overseas Dominion more truly than the soldiers of the King.

* * *

After the prospector has come the mining engineer. The scout has gone in advance of the captain of industry.

There is just one other observation I want to make, which I think will be of interest to you. It is contained in one of my articles written not so long ago. Writing of the peculiar position that Canada occupies in the mineral industry of the whole Commonwealth I stated:—

Canada's position as a potential producer of great mineral wealth in the future is not merely a pious hope held by ourselves, but is recognized by the leading authorities of the world in minerals. Dr. C. K. Leith, of the University of Wisconsin, for example, in writing recently in "Foreign Affairs," on the mineral position of the nations of the world, says:

Canada is of special interest in that it contains one of the world's largest mineralized areas as yet undeveloped. Exploration is going on

> here on a larger scale than anywhere else in the world and discoveries are relatively frequent. . . . The situation is of special interest from a world standpoint, because of Canada's position between the two great exploiting countries of the world, the United States and Great Britain.

We have had attributed to us a position of peculiar significance from a political point of view between Great Britain and the United States.

Dr. Leith rightly gives us a similar position from the mineral standpoint. I think, Mr. Chairman, that is all I have to say.

The CHAIRMAN: Perhaps, Dr. Camsell, you would be willing to answer some questions if anyone wishes further information?

Dr. CAMSELL: Certainly, Mr. Chairman.

Hon. Mr. HORNER: I would like, Mr. Chairman, to ask Dr. Camsell what would be the possibilities of building a railroad into Yellowknife.

Dr. CAMSELL: There are considerable physical difficulties. You know, Yellowknife gold fields are on the north side of Great Slave Lake, and that lake is about 375 miles long. To extend the railroad, say, from Fort McMurray directly northward you would hit right in the middle of the lake. It would mean going around one side or the other. Going around the west side would mean going away up past the north arm and then down south again.

There is, of course, as you know, a highway being built from Peace River to Hay River. That portion in Alberta is being built by the provincial government with assistance from the Dominion, but the balance, about 30 miles in length is in the Northwest Territories and that we have to build ourselves. That road will be finished for travel in the spring of 1948.

Hon. Mr. HORNER: Would that be a road right through to Yellowknife?

Dr. CAMSELL: No. In the summer there will be a barge service across the lake.

Hon. Mr. HORNER: But there is no road striking from Athabasca Landing and opening up new country not going so far west?

Dr. CAMSELL: I think it would be much more likely to start in at Peace River and follow very much the new highway, because for the first 250 miles the country is capable of settlement from the agricultural point of view.

Hon. Mr. MCRAE: Would you make it a little longer clear up almost to Hay River?

Dr. CAMSELL: Yes.

Hon. Mr. MCRAE: I think it would be nearly 450 miles.

Dr. CAMSELL: The road to Great Slave Lake is 400 miles.

Hon. Mr. MCRAE: I saw as fine land around Fort Vermilion as on Portage Plains and growing as good wheat. That area extended practically up to Hay River.

Dr. CAMSELL: Yes. That is the reason we have advocated building all that highway through there.

Hon. Mr. MCRAE: It is fine agricultural land practically from Peace River Crossing near to Hay River.

Dr. CAMSELL: And it will provide a food supply, meat and agricultural products, to Yellowknife. The other alternative is to connect up with the Nelson Airport. That probably would be the shortest one to build, because it would run northeastward to the mouth of the Liard river, cross the Mackenzie, and go over the Horn Mountains to the north arm of Great Slave Lake. The distance would probably be shorter from the point of view of new road.

Hon. Mr. PATERSON: Has the Alaskan Highway opened up any new mining areas, or is it likely to?

Dr. CAMSELL: It has not opened up anything new yet, but it has disclosed certain prospects. The first part of it, say from Fort St. John to Nelson, runs through stratified rocks which are not likely to contain metallic minerals; they do contain coal, and they may contain oil. Farther on the road traverses stratified rocks to Watson Lake, but from there into Whitehorse is a different kind of geology, where stratified rocks are intruded by igneous rock making conditions favourable for the deposition of ores. That is where they are making discoveries; in the belt between Watson Lake and Whitehorse.

Hon. Mr. McRAE: That country right from Fort St. John to Fort Nelson and for 470 miles west of Fort Nelson until you get to the foothills is good agricultural land.

Dr. CAMSELL: One of the best areas of agricultural land lies around Fort Nelson. Along the way to Whitehorse there are patches of good country as well as around Champagne.

Hon. Mr. McRAE: Yes, but small.

Dr. CAMSELL: Yes, but that is where the experimental farm will be established.

Hon. Mr. WHITE: You made reference to the fact that the Rossland camp had been reopened. Has the increase in the price of gold anything to do with the reopening?

Dr. CAMSELL: I do not think it made any difference at all there, but I would not be sure. The two factors there were technological investigation and the treatment of the ore. That is the last occasion when Rossland got a boost. The first was due to a more accurate knowledge of how the ore bodies occur.

Hon. Mr. McRAE: Probably honourable senators do not know that Dr. Camsell was born at Fort Good Hope.

Dr. CAMSELL: No, at Fort Liard.

Hon. Mr. McRAE: Probably he is the best qualified man we have on the north country to-day. I think if you feel disposed to do so, Doctor, an expression of your views in regard to the Yellowknife district would be very interesting to the committee.

Dr. CAMSELL: Well, I have very great faith in the future of the Yellowknife district. Of course, there are not many properties as yet that you can say are going to develop into mines; there has not been sufficient work done on most of them. There are at the present four mines—Negus, Con, Ptarmigan, and the Thompson-Landmark that were operating before the war. Two of them have reopened after closing down. I think there was a fifth one.

Hon. Mr. HORNER: Giant Yellowknife.

Dr. CAMSELL: That is not in production, but it looks very good to me, judging by the exploration by diamond drills. A shaft 500 feet in depth has been sunk at one end of the property, and some drifting has been done, all of which seems to confirm the results obtained from diamond drilling.

Hon. Mr. HORNER: Would you say, too, Doctor, the area may be good, but a lot of it has not yet been explored?

Dr. CAMSELL: The area there is quite large. It runs eastward a couple of hundred miles towards the barren lands, and north towards Great Bear Lake for another couple of hundred miles. So there is a lot of territory to prospect with a wide distribution of mineralization. A certain concentration of those minerals is, however, necessary to make mines.

Hon. A. L. BEAUBIEN: Would you care to say anything about the pitchblende discoveries in the Northwest Territories?

Dr. CAMSELL: I am afraid I cannot give you much information because I do not know. I know something of course, of the situation at Great Bear Lake, for I visited there on several occasions, and was to some extent responsible for the original discovery of 1900. It was then that Dr. Bell and I described the outcrop of the ore body, not knowing what was underneath of course. It was thirty years afterwards that Gilbert Labine went out to examine this outcrop looking for silver, because there were indications of cobalt stains. To Labine cobalt stains meant silver and he went up to look for silver. At the same time he found pitchblende in the same veins. What the present position is has, I think been kept very close. We have had survey parties in different Sections of the north country looking for deposits of pitchblende, since there are known occurrences outside the Eldorado mines just adjoining, and farther south on Hottah Lake there are occurrence of pitchblende. How important they are still remains to be proven.

Hon. Mr. MCRAE: I should like to ask Dr. Camsell if he would please do something for us. I may say that I had the map now on the wall hung up for that very purpose. We have heard a great deal about the precambrian or Canadian Shield. I wonder if you would be kind enough to trace it out on the map, adding such remarks as you may think necessary to make.

Dr. CAMSELL: Yes, I can do that quite easily. It embraces the whole of this Labrador Peninsula and runs down to near Ottawa. Its boundary extends on out through here into Ontario and Manitoba and runs along up in this direction across Athabasca Lake, and touches the Slave river at Fort Smith. It then crosses Great Slave Lake and then runs up north of Mackenzie river. All this country to the east is what is known as precambrian, including the basin of Hudson Bay lying almost in the center of it. The St. Lawrence Valley borders it on the south. There are pieces in here, for example, that are covered by later rocks, limestone, shale, and so on. Then again in the Arctic, most of the islands are underlain by stratified rocks of a later age than the Precambrian. The Precambrian almost certainly underlies those rocks, but it does not come to the surface.

Hon. Mr. MCRAE: There is not much cover in the Yellowknife region.

Dr. CAMSELL: Very little. Yellowknife is here. Great Bear Lake is just off the edge of the map. It is the easiest country in the world to prospect. The intelligent way of doing it today is for prospectors and mining engineers to come to Ottawa and go into the National Museum. There they will find a library of over a million airplane photographs. We have there nearly every airplane photograph that has been taken. For example, take this area south of Great Slave Lake. They can spread the photographs on the table and pick out the rock formations and rock structure.

Hon. Mr. WHITE: There is not much overburden there.

Dr. CAMSELL: Very little; and the timber is light. The edge of the timber line is not far west of Great Slave Lake, probably 150 miles from the barren lands.

Hon. Mr. MCRAE: Those pictures are something you should be very proud of, Doctor. They are wonderful. From them you can follow the faults township after township as worked out there.

Dr. CAMSELL: Yes.

Hon. Mr. PATERSON: Is there likely to be any gold discovery in Labrador?

Dr. CAMSELL: There are all kinds of prospects.

Hon. Mr. PATERSON: You usually find iron along with gold.

Dr. CAMSELL: You do sometimes. After all, gold is where you find it.

The CHAIRMAN: Gentlemen, you have all found the address of Dr. Camsell very interesting. In my judgment he has given us a lot of information, which amply justifies us in looking forward with hope and faith to the future of the mining industry of this country. On behalf of the committee I wish to thank you, Dr Camsell, for the information you have given us. (Applause)

The CHAIRMAN: We have Mr. W. H. Losee, Director of the Industrial Census and Census of Merchandising, Dominion Bureau of Statistics.

Mr. LOSEE: Mr. Chairman and gentlemen, Senator Crerar and Senator McRae asked me to come before you to say a few words following up the general discussion of the last few days, in connection with the value of the mining industry to other industries in the rest of Canada. A considerable amount of information embodied in the Ontario brief was secured from the Bureau of Statistics, and I can only repeat some of the things that were said, and perhaps add a few of my own.

Hon. Mr. MCRAE: The statistics in the Ontario brief were government statistics?

Mr. LOSEE: Yes, sir.

> Canada is among the world's greatest producers of gold, silver, and the common base metals, and the exploitation of the mineral deposits from which they are derived is closely associated with the growth and development of the country.
>
> Metal mines are usually situated in areas of little value other than for mining, and their operations along with the contingent metallurgical works associated with base metals have created a prosperity which exercises a profound influence on the general economic development of the country. In other words, the demand created by these mining industies for machinery, chemicals and other process supplies, as well as for the necessities of life, gives them an important place in the national economy.
>
> In 1939, the last year for which world figures are available, Canada was first in the production of nickel, second in gold, third in silver, third in copper, third in zinc, and fifth in lead. Prior to the war 1914-1918, except for lead, none of our base metals were refined in Canada; the products of our mills and smelters were exported for final treatment. Since that time, electrolytic lead and zinc refineries have been established at Trail, British Columbia; a nickel refinery at Port Colborne, Ontario; copper refineries at Copper Cliff, Ontario and Montreal East, Quebec, and a zinc refinery at Flin Flon, Manitoba. In addition, and as a result of the construction of these refineries, many secondary industries have been established to further process these metals into fabricated products.

It is a fact, gentlemen, that prior to the war of 1914-18 we had some refined lead at Trail, British Columbia, but the rest of our metal had to be exported to be refined; then as we wanted it we had to buy it back in its refined state. There has been considerable change with the construction of the refineries at Copper Cliff, handling the copper from the International Nickel Company, the refinery at Port Colborne handling the nickel from the International Nickel Company, and the refinery at Montreal East handling the copper from the Noranda Smelter. They have all had a tremendous influence on the use of these metals in fabrications of all kinds.

> In 1942, the peak year of Canada's mineral production, the total output of all mines, metals and non-metals, including fuels, was valued at $567 million, of which $392 or 69 per cent was produced by our metal mines. Of this total for the metals, gold production totalled $186 million. The peak year of gold mining was 1941 at $205 million, but shortage of supplies and the demand for labour in base metal mines, war industries, and enlistments in the forces began to show their effect in 1942, and the output of gold began a downward trend which did not stop until July 1945. The monthly trend has been generally upward since then as supplies and labour become increasingly available.

The total cumulative recorded value of production to the end of 1945 in the more important metal-producing provinces and territories is as follows:

	Gold	Silver	Copper
Quebec	$ 390,558,866	$ 12,136,916	$ 195,973,011
Ontario	1,612,897,329	287,479,948	539,268,165
Manitoba	69,172,688	6,014,049	73,822,081
Saskatchewan	41,201,831	6,955,648	47,923,322
British Columbia	420,807,807	166,013,735	335,373,336
Yukon	212,105,570	20,995,021	2,711,695
Northwest Territories	14,346,775	837,343	....
	Nickel	Lead	Zinc
Quebec	....	$ 3,357,467	$ 30,275,644
Ontario	$1,198,592,400	4,936,110	1,076,797
Manitoba	....	....	21,147,469
Saskatchewan	....	....	24,272,385
British Columbia	....	372,696,810	234,193,434
Yukon	....	4,385,118	....
Northwest Territories	....	....	....

In 1934 the bureau made a survey of purchases by Canadian mining companies of supplies, amount paid direct to railway companies for freight and express, and electricity purchased. This sruvey was repeated in 1935 and again in 1937 and resulted as follows:

	1934	1935	1937
Gold mines	$23,993,873	$28,707,183	$40,625,357
Base metal mines, smelters and refineries	60,979,181	65,888,691	59,331,709
Total	$84,973,054	$94,595,874	$99,957,066

As 1937 was an everage industrial year, may I be permitted to quote the amount spent in that year for some of the more important items:

	Gold mines	Base metal mines, smelters and refineries
Explosives	$ 4,705,128	$ 2,303,358
Rock drills and parts	1,129,665	590,259
Cars and locomotives, and mechanical parts for same	436,113	393,710
Pipe and fittings, plumbing supplies and valves	1,290,175	1,217,268
Iron and steel bars, sheets, plates, and all structural steel	1,017,566	1,658,529
Coal, coke, charcoal and wood	759,688	8,078,219
Fuel oil, kerosene and gasoline	957,351	1,585,962
Lumber and timber of all kinds	2,848,090	3,227,606
Building materials, cement, brick, hardware, etc.	1,320,137	1,663,330
Electrical equipment	1,595,835	2,157,674
Crushing and grinding machinery	1,225,233	894,292
Grinding balls and rods	1,214,385	666,061
Mill machinery	1,528,192	751,225
Mine machinery	1,721,799	911,587
Chemicals	1,698,283	927,971
Electric power	4,517,217	6,327,729
Freight paid direct to railway companies	2,273,232	12,492,910

Hon. Mr. BEAUBIEN: You do not show any figures indicating the value of the mining industry to food products from the farm?

Mr. LOSEE: That is a very difficult figure to get. I do not know whether this suggestion is a good one or not, but I thought if the Ontario Mining Association would take some mine in a small area, like Pickle Crow or Central Patricia, situated away from a town, they could measure the food going into such a centre and apply the result to the population in other centres. That is the only way we could get at it.

The purchasers by mining companies were published in greater detail in the Annual Report of Mineral Production for 1937, and I note the Ontario Mining Association has photographed the page from this report and inserted it in its brief.

In that year (1937) Canadian gold mines employed 29,140 men and paid salaries and wages to the amount of $48,219,318. In the peak year of gold production (1941) the gold mines employed 32,551 and paid $62,150,-810 in salaries and wages. In 1932, the earliest year for which we have comparative data, Canada's gold mines employed 5,441 men who received $8,011,682; thus between 1922 and 1941 employment in gold mines increased sixfold and the amount paid out for salaries and wages nearly eightfold.

Total employment in base metal mining in 1937 was 25,906 and salaries and wages totalled $42,579,183. This increased to 31,740 in 1941 with a payroll of $58,636,411. In 1922 base metal companies employed 7,697 and paid salaries and wages amounting to $10,359,985.

Estimates have been made at various times on the effect the employment of one man at the mines has on the other industries in the country; how many others are employed or are given a livelihood due to his effort? As a result of an estimate made by Dr. Scott Turner, Director of the United States Bureau of Mines, in 1932, it is calculated that 12½ people in the United States are supported for every person employed by the mining industry. There are the miners and their families and the communities in which they live, with stores, schools, churches, theatres, hotels, garages, and other ancillary services. Then there is the transportation to and from these communities by rail, bus service, motor and air. And following that is the employment in the manufacturing centres and on the farms which must supply equipment to the mines and food and clothing to the people.

The increase in population since 1911 of some of the mining communities in Canada, as shown in the following table, may prove of interest; figures for 1946, where available, are estimated.

	Trail, B.C.	Flin Flon, Man.	Sudbury, Ont.	Copper Cliff, Ont.
1911	1,460	....	4,150	3,082
1921	3,020	....	8,621	2,597
1931	7,573	2,374	18,518	3,173
1941	9,392	6,860	32,203	3,732
1946	10,000	10,000	36,442	3,551

	Timmins, Ont.	Teck Township (Kirkland Lake)	Rouyn, Que.	Noranda, Que.
1911	....	....	....	....
1921	3,843	1,170	....	....
1931	14,200	9,915	3,225	2,246
1941	28,790	20,409	8,808	4,756
1946	25,856	....	10,020	6,000

	Val d'Or, Que.	Malartic, Que.	Amos, Que.
1911	....	....	....
1921	....	....	1,488
1931	....	....	2,153
1941	4,385	2,895	2,862
1946	6,000	5,000	3,600

Those figures may not be quite accurate as they relate to Sudbury because it is a railway town and has other industries surrounding it. I would attribute Sudbury growth to the nickel industry in Copper Cliff. I secured some figures today in connection with retail sales in certain mining towns. The figures are as follows:

	1941 $	1930 $
Timmins	14,212,000	6,270,700
Noranda	2,360,100	756,300
Rouyn	4,929,100	1,226,700
Sudbury	20,653,800	10,885,400
Copper Cliff	1,071,200	761,200
Trail	5,717,000	4,182,300
Kirkland Lake	10,887,000	5,043,700

Kirkland Lake is not an incorporated town but is part of Teck Township; nevertheless the amount spent in that township, leaving out the incorporated towns is nearly $11,000,000. We do not know how many people send to Eaton's and Simpson's for supplies.

> Attention is drawn to the fact that most of these towns are on the Northern fringe of our settled areas and a considerable distance from the manufacturing centres. They are in a part of Canada known in the earlier years to the trapper and the logger. Paying mines are difficult to find and large sums must be spent for prospecting, diamond drilling and development, but when a substantial base metal orebody has been brought to the stage of successful operation, or where a community has been built up as a result of the discovery of a group of gold mines, the whole country reaps the benefit of this new wealth.

In that connection I made a few notes about the Sullivan mine on which the Consolidated Mining and Smelting Company base their prosperity. It was discovered, I think, back in 1893 by Pat Sullivan. They went through a great many trying years. The ore was very complex—lead, zinc, and silver very closely associated. They tried everything. I remember hearing Mr. Blaylock tell how much money they spent, and what a difficult time they had. In about 1920 or 1921 differential flotation solved their problem. They were able to ship lead concentrated two hundred miles to the smelter which, as you will remember, as Sydney Norman said the other day, Augustus Heninze built there. They have the mine two hundred miles away from the smelter, and ship the ore concentrate up there. As a result they have a tremendous rate of zinc production in Trail. Sulphur in the ore gave them much trouble in smoke. The trouble they were having was burning vegetation for miles around.

Mr. PATERSON: How did they get rid of that?

Mr. LOSEE: They built a fertilizer plant away up on the hill. They took the sulphur, took hydrogen out of water, nitrogen out of the air, and put them together, and got sulphate of ammonia. They have a tremendous production possibility as a result of that.

Hon. Mr. HURTUBISE: Is it a very expensive process? I ask the question very seriously because the vegetation about Copper Cliff has been burned for a distance of fifty miles away. They have made petition to the Government to come to their assistance.

Hon. Mr. McRAE: I know the history of that, and it is similar to that of Trail where they destroyed the orchards, and they put the stacks up much higher. The result of raising the stacks was that the fumes went to the State of Washington, and I remember a Bill being approved for $545,000 damage. A second suit came along. They got tired of fighting the fumes, and built the fertilizer plant.

Hon. Mr. HURTUBISE: Before they raised the stack they burned everything around inside of ten miles. Now that they have raised the stack they burn everything fifty miles away, and the vegetation is growing around the plant. Just for your information, they have raised the main stack to five hundred and forty feet, one to five hundred and ten, and the other to three hundred and seventy-five.

Hon. Mr. McRAE: The damage that was done in the United States—there was an international committee sitting on that, and they approved $545,000 in one case, and several thousand in the other. Finally they put up the fertilizer plant. I think the fertilizer plant has been very profitable.

Hon. Mr. HORNER: Does the fertilizer plant take away the fumes?

Hon. Mr. McRAE: They eliminate the fumes by using them.

Hon. Mr. John Alexander McDONALD: It was a godsend during war?

Hon. Mr. HORNER: Does that eliminate the damage?

Mr. LOSEE: They not only make sulphate of ammonia, they are making elemental sulphur.

Hon. Mr. WHITE: In the early days when I was at Copper Cliff, they used to roast the ore out in the open; and it was much worse. I almost suffocated with the fumes.

Hon. Mr. MCRAE: The fertilizer made at Trail is a super-phosphate.

Mr. LOSEE: They make a good sulphate and ammonia sulphate, and before the war they had quite an export to the Far East.

Hon. Mr. MCRAE: To China and Japan.

Hon. Mr. PATTERSON: Is the Sullivan a big mine?

Mr. LOSEE: I don't know how long it will last. It is a big mine. There is no doubt about that, and it is a nice property; although I don't know how long it will last, but they have been taking ore out for the last four or five years. Another one you might be interested in is the Kerr-Addison mines, which was staked first in 1906 in the Larder Lake country, almost before Porcupine. Perhaps the $20 gold has some influence on it. When I went there some years ago, the Kerr-Addison looked like one of the big mines of the country.

Then, we have Noranda discovered in 1921. It did not begin shipping until 1927—six years later. Then, there is the Flin Flon discovered in 1917. You have heard the story of that, and it took a long time before it got into production. They spent a lot of money on it, they had hard ore to treat. It was touch and go to find the proper metallurgical process for it.

Hon. Mr. BEAUBIEN: It is one of the largest producers in Manitoba.

Hon. Mr. MCRAE: Mr. Losee, does your study of the mining industry give you much confidence in the future?

Mr. LOSEE: Yes. Of course, mining has always been a soft spot with me. I would not do anything else other than agree with you. To be quite frank with you, you don't have to go very far north of the international boundary before you get into mineral rock. If we can do anything with that country, it will mean a bid industry for this country.

Hon. Mr. HORNER: I may say that when I first visited Kirkland Lake there was nothing there. A year ago a fifty-foot lot, which I saw, sold for $50,000.

The CHAIRMAN: I am sure the statistics Mr. Losee have given the Committee will be of great help to the members in preparing their report, and I wish to thank him.

At 9.35 p.m., the Committee adjourned.

APPENDIX

BRIEF

Concerning prospecting and early stage development in Canada, submitted to The Senate Natural Resources Committee, Ottawa, by the Prospectors and Developers Association, Room 428—67 Yonge Street, Toronto, Ontario.

May 28, 1946.

INTRODUCTION:

Prospecting and development of prospects, fundamental first steps towards new mines, decreased alarmingly during the years 1937 to 1941, that is, immediately before and during the first years of the war. The Prospectors and Developers Association undertook to discover the reasons for this decrease, and to devise, if possible, remedies. As might have been anticipated, the reasons are many and varied. Some of those reported in this brief may appear insignificant, others are obviously of fundamental importance, but all are phases of different facets of the one large problem—how shall the rate of discovery of new mines be increased to permit Canada and Canadians to benefit from their mineral heritage? The problem is too great to be solved at any one time by any one brief or assemblage of briefs, and the Association by no means claims that the suggestions contained herein are all the best, not even all correct. The correct solution can be found only by trial and with experience. We do know, however, that they represent a cross-section of mining thought throughout Canada.

The Prospectors and Developers Association completed on February 29, 1944, a series of thirteen meetings. These meetings were held in Toronto, Montreal, Bourlamaque, Noranda, Kirkland Lake, Timmins, Haileybury, Sault Ste. Marie, Geraldton, Port Arthur, Winnipeg, Flin Flon and Edmonton. They were attended by prospectors, mining engineers, geologists and many of the general public in each district, all affected by or interested for one reason or another in mining. At each place discussions centred around the problem facing the mining industry in general, as well as those affecting each particular district. The problems discussed are set forth in the body of the brief. A wide variety of opinion was obtained as to their solution but nearly every one of the final decisions was accepted unanimously at each place. Furthermore a similarity of opinion from one district to another became apparent early in the tour. The recommendations so arrived at have been brought up to date and expanded where necessary at annual meetings and by correspondence, with the final meeting being held in Toronto in March, 1946. I am satisfied that a more representative, more democratic poll of mining opinion could not be obtained.

The suggestions are set forth in two main sections. In the next succeeding part of the brief they are presented in summary form; the third part gives explanations and pertinent arguments bearing on several of these suggestions.

Summary of suggestions and recommendations:—

(1) Prospecting syndicates:—

Features desired—

(*a*) Dominion-wide uniformity.
(*b*) Simplicity.
(*c*) No or very low registration fees.
(*d*) Capitalization up to $35,000 N.P.L.
(*e*) Regulation in Ontario and Quebec by Securities Commission; by other similar bodies in other provinces.
(*f*) Compulsory annual audit with report to unitholders.

(2) Security regulations:—

Features desired—

(a) Dominion-wide uniformity insofar as possible within the limits imposed by local provincial conditions.

(b) Automatic release to the vendor in a newly-formed mining company of (1) ten per cent of the vendor's share (2) thereafter of one share of vendor's stock for each share of treasury stock sold.

(3) Curb or unlisted exchanges.

(4) Income tax deduction (Dominion):

Features desired—

(a) Exemption from taxation of money up to $5,000 invested in prospecting syndicates.

(b) Extension of the three-year tuning-up period for young mines.

(5) General Taxation (Federal).

(6) Geological Surveys:

Features desired—

(a) Greatly increased geological mapping by Federal and Provincial surveys.

(b) Expansion of Federal Geological Survey work in Ontario in particular.

(c) Pay and conditions of employment for geologists to be made more attractive in order to (1) retain men now in government service (2) encourage others to seek such employment.

(7) Field research.

(8) Resident Geologist:—

Recommended that the practice of establishing resident geologists be continued and expanded. These to be provincial men in the provinces, federal men in Yukon and Northwest Territories.

(9) Educational programme for the general public:

Suggestions—

(a) Plans be made to publicize and bring to national attention the annual "Mining Day for Canada", inaugurated in March of this year.

(b) Press and radio publicity campaigns similar to that carried out by the Minister of Mines and Resources in 1936.

(c) Special efforts be made to counteract recent adverse publicity in the American press.

(d) Educational lecture tours, displays, and movies in towns and cities not directly connected with or situated in mining districts, as well as in mining districts.

(10) Revision of school curricula:

Features desired—

Inclusion of topics relative to mining and geology, i.e., the earth sciences in upper public and high schools.

(11) Assessment work:
Features desired—
(*a*) Cutting of roads to or on claims and building of camps on claims should be allowed as assessment work.
(*b*) Geological examination by qualified persons, should be allowed as assessment work.

(12) Mining Recorders and Recording Offices:
Features desired—
(*a*) A more complete supply of up-to-date township maps.
(*b*) Private rooms for conducting business.
(*c*) Increase salaries for mining recorders.
(*d*) Abolish service charges for claim search where such are made.

(13) Grant no prospecting consessions.

(14) Contingent on claimant establishing himself as *bona fide* prospector we recommend that such claimants—
(*a*) Be given special cheap rates via public carriers.
(*b*) Be permitted to carry fire arms in parks for protection against wild animals.
(*c*) Be given preference along with returned men, in governmental bush work, for example in cutting township lines.
(*d*) Continuation of present rationing system to *bona fide* prospectors.

(15) Educational courses for prospectors.

(16) Roads:
Recommend favourable consideration of roads into new mining areas.

(17) Issue assay coupons with mining licences.

(18) Open for staking those sections where mineral rights are held under titles obtained before 1882 (Quebec).

(19) Department of Mines, Federal and Provincial:
Features desired—
(*a*) A Federal Department of Mines concerned solely with mining affairs in or relating to Canada.
(*b*) Adoption of the principle by the Federal and Provincial Governments that the Deputy Minister of Mines in each government should be a man qualified for the position by reason of adequate experience in or by knowledge of mining affairs either Dominion or Provincial, as the case may be.

(20) Diamond drilling.

(21) Preservation of Records.

(22) Extradition Treaty.

BODY OF BRIEF

(1) Prospecting Syndicate:

Proposal—That a uniform type of prospecting syndicate be adopted by all the provincial and the Dominion governments, and that it take the form of that in existence in Ontario today.

The following suggestions are specifically offered:

That these syndicates be permitted to range in value up to $35,000;

That these syndicates carry no personal liability;

That registration and surrender be free or be possible for a fee not to exceed $25.00;

That these syndicates be organized and maintained under supervision of provincial or federal securities commission or their equivalents.

Argument—Prospecting syndicates provide one of the most efficient, most easily understood methods of raising money for finding and early stage development of new mines. They have fallen into some disfavour because of lack of understanding on the parts of both the prospector and the investing public and because of complete lack of uniformity of regulations from province to province. No syndicate of any type is provided by federal authorities for the Northwest Territories or the Yukon.

Early stage development money is most commonly raised in Ontario by formation of a company followed by sale of stock to the public. It is a matter of common experience that not over 25 per cent of money so raised is available for development; the remaining 75 per cent is absorbed in brokers' fees, promotional expenses, charter and legal fees, etc. In the syndicates proposed at least 70 per cent of money raised by the sale of syndicate securities would be earmarked for development purposes. That is to say, the syndicate investor has a three times better "run for his money" than has an investor in a company formed to carry out the same development. Thirty-five Thousand Dollars is suggested as a reasonable maximum capitalization because this sum is large enough to bring a prospect to a stage which will justify formation of a new company, sale to an established mining company, or abandonment.

Under the present system of company formation when work on a property stops the great majority of such companies become dormant, charter fees accumulate year after year, the prospector's assets are tied up in pooled stock and the claims become hopelessly entangled in legal disputes. Most, if not all, of these difficulties, would be obviated if the proposed syndicates were adopted.

The above was recommended in a brief presented by this Association to the Dominion and Provincial Governments on March 22, 1944, and it is gratfying to note that it has since been adopted by Ontario. No action has been taken in any other province however, and the Association urges that the other provinces in the Dominion give consideration to the law in force in Ontario.

The Ontario Syndicate Law as now adopted fulfils the request of this Association, but new regulations of the Ontario Securities Commission require that such syndicates post a bond of $1,000 before syndicate units can be qualified, or persons other than one of the original stakers can sell syndicate units. Such a requirement virtually rules out the sale of syndicate units and can have the effect of nullifying the existing law.

(2) Security Regulations:

Dominion-wide uniformity of security regulations is highly desirable insofar as possible within limits imposed by local provincial conditions. At present the regulatons governing the sale of securities, formation of syndicates, formation of companies, etc., etc., differ in bewildering fashion from province to province. Neither mining nor mining people today are confined to any one province. The differences of regulations from one province to another are so dangerously confusing that they threaten orderly development and we are convinced that any steps which can be taken towards uniformity would be highly desirable.

To that end, as suggested by this Association in a brief dated March 22, 1944, an interprovincial conference of the several attorneys-general was held in Toronto. This Association is strongly of the opinion that such meetings provide a most promising if not the only manner by which mutual understanding can be reached. Furthermore this Association believes that such meetings should be continued and expanded and that other meetings should be held at regular intervals—at least semi-annually—until such time as agreement is reached and an orderly system developed for the whole of Canada.

In particular the Association strongly recommends Dominion-wide adoption of the following regulations concerned with vendor's stock in newly-formed companies:

(*a*) That ten per cent of the vendor's share of stock be automatically released from pool immediately on formation of the company as is done in Ontario to-day.

(*b*) That thereafter one share of stock be released to the vendor for each share of Treasury Stock sold, until all the vendor's stock is so released.

(*c*) That this release be automatic, i.e., that application by the vendor for such stock should not be necessary. Notice of its release should be sent to him immediately the stock becomes available under these regulations.

(*d*) Such released stock always to be subject to pooling arrangements between the vendor and the underwriter, at the vendor's discretion.

(3) Curb or Unlisted Exchanges:

This Association recommends that a curb or unlisted exchange be established in each province. The reasons for adopting a curb or unlisted exchange may be summed up as follows:

(*a*) Provides protection for the investing public in that day-to-day share activity can be learned at a glance.

(*b*) It rules out fictitious quotes.

(*c*) It removes the onerous regulations calling for a copy of the prospectus to be filed with each purchaser of stock.

(*d*) It places all stocks not on the general exchange on an equal footing. In other words, no favoritism can be exercised in quoting such stocks.

(*e*) Such an exchange would serve as a centre for information on all companies not qualified on a listed stock exchange. The investing public could then apply for and obtain complete information on all such companies at any time.

Regulations to govern such an exchange would require careful consideration, but the Association feels these should be included:

(*a*) No stock, other than those listed on the large exchange, be permitted to trade unless it is qualified on the unlisted exchange.

(*b*) That prospectuses on any qualifying issue be filed with this curb or unlisted exchange from time to time, but that such filing be at least semi-annually or when some material change takes place in the set-up of the company.

(4) Income Tax Deductions (Dominion):

The Association respectfully wishes to point out that the federal government has, in its power to tax, the power to direct funds into any channel it sees fit. The critical necessity for perpetuation and expansion of Canada's mining industry, starting of necessity with increased prospecting, has been preached for years from public platforms by leaders of the mining industry, by political leaders, in fact by all informed public spirited Canadians. Mr. Ilsley recognized the potency of his tax-remission method as a stimulus for search for war-necessary minerals. We urge upon him that the larger need for new discoveries of all kinds of ore is now upon us, and respectfully request that he see fit to extend the theory of deduction to money invested in any and all types of prospecting syndicates.

It may be pointed out that the development of Canada's natural resources is one of the mainstays of the nation's economy, and it is therefore considered that the Government assumes what might be termed as a false position when it taxes the people of the country in such a way as to gravely hinder the development of many prospects into large new mines. It follows that the Dominion Government should seriously consider exempting from income tax all money, up to $5,000 per person or company, invested directly in prospecting syndicates. Many small mines are lost by virtue of the income tax laws. Such moneys would be returned to the government many times over in the ultimate tax receipts from individuals who would be employed in opening up and developing new mines. Eventually the shareholders enter the picture by paying taxes on dividends. If mines are not found through encouragement of prospecting then the government loses all these sources of income. It should therefore be considered a good investment on the part of the government to exempt from taxation money invested in prospecting syndicates in the first place.

Similar arguments may be cited in connection with the plea that the three-year period of tuning up for young mines should be extended with regard to taxation.

(5) General Taxation (Federal):

(*a*) The Federal Tax burden, particularly in the case of junior mines, has become almost confiscatory. These mines, having recently come into production and not having cash reserves, have been taxed to the limit during the war years. A great part of the money paid in taxes should have gone into development work or been put in reserve until such time as post-war labour conditions permit such work. This artificially reduced shortage of cash reserves inevitably penalizes the junior mines.

(*b*) Excess profits were instituted as a war measure to prevent industry from making undue war profits. Mining costs have jumped sharply while in gold mines the price of the product has remained the same. Thus with higher costs the profits are reduced or eliminated. Another result is that because of higher costs incurred by higher wages, and increased price of material, along with the lower man-power efficiency and all topped off by the excess profits regulations, millions of tons of low grade ore have been left in the ground, in many places never to be mined. It must be remembered that most of the large producers of to-day started as very small mines and that it took many years, even when taxation and costs were lower, to bring them up to their present production. Therefore if our junior mines are to expand and our older mines to continue, the burden of taxation must be lightened.

In any remarks that we have made under taxation we recognize that the country had to raise enough money to carry on the war. We believe the Finance Minister of Canada did a wonderful work, but are of the opinion that sufficient recognition may not have been taken of the fact that a mine is a wasting asset and sometimes it might appear that capital, in addition to profits, is being taxed. The second point is that mines should not be taxed out of existence because they are of primary importance now that the war is over. The old mines should be preserved in good order and prospectors encouraged to find new ones.

It should be noted that every increase in taxation has the effect of decreasing the ore in the ground. Carried to extreme this could mean that Canada's mineral deposits could be taxed to extinction.

The Association recognizes that the matter of taxation requires exhaustive and extensive study, and we are aware that the Ontario Mining Association and other mining associations across the country have spent a great deal of time and effort in compiling statistics and making a thorough investigation into the subject. We would urge careful consideration of their recommendations with regard to taxation.

(6) Geographical Surveys:

Several hundred years will be required to map Canada geologically in anything approaching an adequate manner at the present rate of work, according to an article by Dr. G. Hanson, Chief Geologist, Geological Survey of Canada, published in the March 1944 Bulletin of the Canadian Institute of Mining and Metallurgy. This, which simply means it never will be done, is an intolerable situation, and one which should be corrected. Federal and Provincial surveys must be expanded—doubled, trebled or quadrupled if necessary. Adequate salaries and more attractive conditions of employment in government surveys must be provided to bring young men and women into this work. We have one of the largest, if not the largest unexplored area, let alone unprospected area, remaining in the world. We must expand our Geological Surveys. Let us translate our words, our necessities and our wishes into action at once.

A curious and not readily understandable situation with regard to federal geological survey work has come to light. Although Ontario produces nearly half of Canada's minerals, in dollar value, and, as a consequence, pays a lion's share of the Dominion taxes collected from mines, only about 5 per cent of the Federal Geological Survey work is done each year in Ontario. This year, according to an announcement in the *Northern Miner* of May 16, 1946, there are to be 40 geological parties in the field, distributed as follows: Six in the Northwest Territories, 3 in Yukon, 6 in B.C., 8 in Alberta, 3 in Saskatchewan, 3 in Manitoba, 2 in Ontario, 6 in Quebec an 3 in the Maritimes. This situation should not be allowed, to continue. Northern Ontario contains some 210,000 square miles only a fraction of which has been geologically mapped on anything remotely approaching an adequate scale.

A tremendous amount of work remains to be done and we must insist that Federal Geological and Topographical parties not only re-enter Ontario, but that they work in commensurate numbers and with the same latitude as in other parts of Canada. This is not to suggest that geological work in the other provinces be decreased; on the contrary it must be greatly increased. It is to urge that Geological Survey work in Ontario be very greatly expanded as well.

(7) Field Research:

It is recommended that field research be conducted in each of the older mining camps. Many of the problems concerning conditions of mineral deposition can be studied only in camps in which mines have been developed to an extent sufficient to allow full and proper examination. We are thinking, for example, of the mines of Porcupine, Kirkland Lake, and Sudbury. In these camps mine workings are now measured in hundreds of miles. Structures which control ore deposition can be, and in some places are being, worked out in great detail and an adequate study of such camps would provide data of fundamental importance, both from academic and practical points of view. The importance of such research to other mines and prospects in Canada cannot be stressed too strongly.

Prof. E. L. Bruce, of Queen's University, in a paper presented at the March, 1946 meetings of the Prospectors and Developers Association, suggested a method of studying the problem of depth of ore deposition in Canadian gold mines. The application of this method would require intensive study of deeply developed mines. Its importance, if it could be verified, to the mining industry would be enormous. This is but one example of many which could be cited to indicate the need for field research.

It is suggested that one of the most fertile fields for such an examination would be the Porcupine Camp with its well-established mines. It is felt that this work should be regarded as research and that as such it should fall into the province of the National Research Council of Canada. The Association urges that a program along this line be put into effect this year. Work on such problems is long overdue and the Association wishes to go on record to the effect that this work be started at once. It is pointed out that the Association considers that the Geological Survey of Canada has on its staff men of the high calibre and wide experience necessary to fit them pre-eminently for such work.

(8) Resident Geologists:

In a brief presented by this Association to the Dominion and Provincial Governments on March 22, 1944, it was recommended that a resident geologist be placed in each of the large mining centres as soon as conditions permitted. It is gratifying to note that this recommendation has been acted upon by both Ontario and Quebec, who have established and are establishing, resident geologists in a number of mining centres. It is now especially recommended that this move be expanded and that the Dominion Government place resident geologists in Yellowknife and Whitehorse.

(9) Educational Programme for the General Public:

An astonishing number of people in this country are only vaguely aware that there are mines at all in Canada, and they have absolutely no conception of the present or possible future importance of mines and minerals in our economy. We have been essentially an agricultural people; metal mining really began only 40 years ago, and has been of great importance in our national economy for only about 15 or 20 years. Nevertheless, because 80 per cent of Canada is suitable only for mining, and because this country is at or near the limit of its agricultural expansion, at least insofar as tillable land is concerned, Canada must look forward to an expansion of her mining industry if she is to progress. This country must become "mining conscious" and every possible legitimate step towards this goal should be taken.

Recommendations: Suggested steps recommended by this Association to educate the general public as to the importance of mining are: (*a*) Expansion of the idea of the annual "Mining Day for Canada", inaugurated at the Prospectors and Developers Association Convention at Toronto in March of this year.

It is with great gratification that we had the honour of having Honourable J. A. Glen, Federal Minister of Mines and Resources, inaugurate "Mining Day" this year. The inauguration was widely supported by Canadian leaders in all walks of life. We are stimulated and honoured by receipt of a letter from the Prime Minister of Canada, Rt. Hon. W. L. Mackenzie King, as follows:—

Mrs. V. R. MacMillan,
President, The Prospectors and Developers Association,
67 Yonge Street,
Toronto 1, Ontario.

Dear Mrs. MacMillan:

I shall be grateful if you will convey my cordial greetings to the members of the Prospectors and Developers Association of Canada, on the occasion of the Annual Convention of the Association at Toronto, on March 11, 12 and 13.

I am much interested to learn of the intention of the Association to inaugurate a "Mining Day" for Canada so that all Canadians, young and old, may better appreciate the great importance of mining to our country.

Mining is one of Canada's outstanding industries. The splendid development of our vast mineral resources was one of Canada's most important contributions towards the winning of the war. The further development of these resources, in the years following the war, can contribute greatly both to the national welfare and to the welfare of many lands.

I send my best wishes to all attending the Convention for a pleasant and profitable meeting.

Yours sincerely,

(signed) W. L. Mackenzie King

Messages in similar vein were received from such men as Hon. Leslie Frost, Minister of Mines for Ontario; Hon. J. B. McNair, Premier of New Brunswick; Dr. Sidney Smith, President of the University of Toronto; and Dr. C. Wallace, Principal of Queen's University. Here is what these men had to say, in part:—

Dr. Sidney Smith, President of the University of Toronto:

Anything that can be done to bring home to Canadians the significance and importance in the national economy of mining will undoubtedly redound to the benefit of the country as a whole.

Dr. C. Wallace, President of Queen's University:

Mining has meant so much to our Canadian economy that the plan to have a Mining Day seems to me to be an excellent one. It will serve to draw to the attention of citizens of all professions and vocations in Canada the part that mining has played and is playing, and the problems which have to be faced if the mining industry is to go forward from strength to strength. May the plan prove to be fraught with success.

Hon. J. B. McNair, Premier and Minister of Lands and Mines, New Brunswick:

It is a distinct pleasure to offer support to Mining Day in Canada as proposed by the Prospectors and Developers Association. We are pleased to support the plan which will undoubtedly increase the recognition of and interest in the great mining industry of Canada.

Hon. Leslie Frost, Minister of Mines for Ontario:

The Mining Industry is of immense importance to Ontario. its development has pushed back our frontiers establishing new communities in areas where no activity has previously existed. The importance of the mining industry to the nation and to individual Canadians demands active interest in all its phases. As part of the campaign of the Prospectors and Developers Association to stimulate such interest, I am glad to support the promotion of a "Mining Day in Canada."

This Mining Day is only the beginning. It is strongly recommended that the Senate of Canada take such steps as may be necessary to have Mining Day legalized in Canada. It has already been recognized personally by the Prime Minister and the Minister of Mines and Resources.

This day should be celebrated Dominion-wide by special radio broadcasts, meetings of mining organizations in every district, dinners, etc. School projects dealing with mining subjects, e.g. preparation of maps showing mining centres and the metals there obtained could be devised. Prizes might be offered for the best essay in each high school grade in each school on some topic related to mining.

Here the Association would like to point out that Mr. W. J. Dunlop, Director of Institutional Broadcasts of the Canadian Broadcasting Corporation, did excellent work in connection with the first "Mining Day" this year, being responsible for arranging a splendid coast-to-coast feature programme on that day. Efforts should be made to seek the co-operation of the C.B.C. in this connection every year.

(*b*) Radio programmes, in part dealing with the romantic and dramatic aspects of prospecting and mining, in part with the economics, and so forth, might be designed to last through several weeks (at say, one programme a week).

(*c*) Educational lecture tours, travelling displays of minerals and their products, movies and press articles directed in particular to districts not directly connected with or situated in mining districts, as well as to mining districts.

It may be objected that such a publicity campaign would cost money. In reply this Association would suggest that the mining industry is at least as important to Canada and Ontario as the tourist industry. Each province spends many thousands of dollars advertising the tourist industry. The same amount spent to advertise mining in the whole of Canada would go a very long way towards attaining the desired end. In this connection, special efforts should be made to counteract the adverse publicity given Canadian mining during the past few months in the American press.

(10) Revision of School Curricula:

Next to agriculture, the mining industry is the most important primary industry in Canada. This assertion may be supported by pointing to the amazing record of Canadian mining production before and during the war, to the wide distribution of mining interests amongst shareholders, the taxes paid, and most impressively, to the fact that 80 per cent of this country is suitable for mining. We have a great heritage of mineral lands in this country and on account of our greatly increased debt we should develop our mineral resources in order that we may carry on Canada's proud record of never defaulting on a Dominion security.

The facts are available for all to see. It is, therefore, little short of astonishing to discover that, with exceptions that serve only to make the general lack more glaring, there is practically nothing about mining in Canadian school curricula of studies. Small wonder that the young people make little attempt to enter the mining professions as mining engineers, geologists, or prospectors. They know nothing because they have been told nothing about mining, minerals, or the natural sciences.

The subjects have not been neglected in our schools because they are intrinsically uninteresting. On the contrary they, including as they do, a study of and a better understanding of our immediate environment, the study of the earth on which we live, how it formed, of what it is made, how the hills and streams, the lakes and seas and the mountains formed, all can be made as fascinating a study as, for example crop rotation. Minerals are highly attractive in their own right as objects of symmetrical beauty and knowledge of them and their uses should form part of anyone's education.

These subjects have been neglected because few teachers have the necessary knowledge to teach them—because they in turn were not taught. A break must be made in this circle. The Prospectors and Developers Association does not feel competent to advise in detail how this may be accomplished but wishes to suggest:

(1) That courses in earth sciences be included in Normal School training for teachers.

(2) That summer schools offering refresher courses for teachers include such studies in their curricula.

(3) That a co-ordinated series of courses in earth sciences be designed for our schools. These might well be offered in high schools and should certainly lead towards advanced training in mining, geology or prospecting to be given in technical schools.

We have been informed that the Bureau of Economic Minerals, Department of Mines and Resources, Ottawa, are willing and anxious to gather and distribute to the schools in Canada all such material as may be necessary to put the plan into operation across the country. This Association urges that the Senate take such steps as may be necessary to see that this is done.

This Association feels the importance of such a broad educational programme cannot over-emphasized. A country whose future depends to such an extraordinary degree on development and exploitation of mineral resources must inform and interest its young people, and so educate all its people, all Canadians, as to Canada's mining future.

(11) Assessment Work: (covered in summary).

(12) Mining Recorders and Recording Offices: (covered in summary).

(13) Prospecting Concessions:

There should be no granting of concessions. The Association observes with profound distrust and alarm a tendency in some governmental quarters to grant exclusive prospecting and mining rights over large blocks of the nations territory, a territory that is a common heritage to us all. In our opinion, concessions and the granting of concessions constitute a cancerous growth within the mining industry—foreign to Canadian policies, principles and thought. Canada is a democracy and the country belongs to all of us. It cannot be too strongly urged, therefore, that the granting of concessions be stopped without delay.

(14) Assistance to Bona-Fide Prospectors: (covered in summary).

(15) Educational Courses for Prospectors:

Courses in mineral and rock identification, elementary geology, map-reading, mining law, etc., have been given in mining districts from time to time under provincial sponsorship. Experience has shown, however, that these are only moderately successful in reaching the prospector, and interest tends to lag in successive years. Furthermore little, if any, general publicity or interest attaches to them, and press notices and public interest are only perfunctory at best.

We feel strongly that such courses constitute valuable assistance to the prospector and every effort should be made to continue and extend them. Indeed we wish to co-operate in every way towards their success and suggest:

(*a*) That courses in the several districts be encouraged. Since our Association has an official representative in every important mining district, and since we can thus reach all prospectors or others interested in each district, we and the authorities concerned can be assured of good attendance by the people who should attend.

(*b*) That courses held in the several mining districts be conducted by the resident geologist or other person appointed by the province concerned. It is gratifying to note that this is being done in certain districts of Ontario and Quebec and the Association would urge that this practice be extended and continued.

(*c*) That a study be made to see how many men so educated can be absorbed into the mining industry, and that the rate of admission to the schools be made contingent on the prospect of employment.

(16) Roads:

The need for roads in mining districts is ever present and delay only retards mining development. The Association therefore continues to urge an ever-expanding programme of road development.

The recent announcement by Hon. J. A. Glenn that the Grimshaw Road is to be undertaken at once to Yellowknife has been greeted with enthusiasm. Such forward-looking plans, leading to the opening up of new areas, is welcome and highly commendable. However, this work inevitably points to the need for further roads and thus a road north from Yellowknife must next be considered.

The Association greets with equal enthusiasm the word that a road is also going into the Snow Lake Area in Manitoba this year.

The recent announcement by the Ontario Department of Mines of the commencement of one road to the Red Lake district and another east from Matheson into the Lightning River area points to other steps in line with the general needs of the industry in this regard.

It is recommended that where an estimated ore body has been found consideration be given by the government for a road into that ore body from the nearest highway. It is also recommended that the announcement on new roads to be built in any one year be made early in the season, in order that appropriations for work for that year may be made by those concerned accordingly.

(17) Issue of Assay Coupons with Mining Licences:

The practice of issuing assay coupons with mining licences works splendidly in Quebec. We recommend favourable consideration of this system by the other provinces.

(18) Mineral Rights:

Mineral rights were granted with surface rights in those parts of Quebec settled before 1882. Large sections of such lands are occupied by farmers and as a consequence are not prospected. Other large sections are held under timber grants and they too are not prospected. To obtain clear title to the mineral rights on any of these parcels or parts of parcels of land involves negotiation with heirs or estates and in several instances known to us negotiations were virtually endless procedures. The net result is that prospectors in general will not, indeed can not, work in such districts. This, besides working a hardship on the prospector, prevents development of any mineral deposits therein and so retards progress of mining in this country. Furthermore, in other parts of Quebec, in particular in Northwestern Quebec, mineral rights are subject to tax.

It is pointed out that much ground is being held under other concessions, such as veteran claims from the Fenian Raids, the Boer War, etc. Many of these have long since passed to other than the original owners through sales, etc. Many of the new owners merely hold the ground and in some places have done no work on it for generations. Since blocks of land are continually being brought to patent, the amount left for staking and prospecting is as continually diminishing. Therefore, unless work is done on such patented ground, a continuous reduction of chances of discovery is made.

One of the principal objects of this Association is to keep available for general prospecting as much land as possible. The withholding or withdrawal of land for general prospecting therefore is a matter for serious consideration, and the Association would urge that the principle be generally adopted that land held without work being done thereon should return to the public domain and so be made available for examination and work by others.

(19) Department of Mines:

By way of preamble to this section of the brief, the Association wishes to stress that it is a non-political organization. Furthermore, we are most anxious to avoid reflections by statement or implication on any persons now occupying positions mentioned in this section. We are concerned with arguments for a principle—the principle that mining in Canada is one of Canada's most important businesses, and as such necessitates adequate governmental provision for administration of its affairs.

(*a*) The Federal Department of Mines—

The report of the Department of Mines and Resources, including Report of Soldier Settlement for Canada, for the Fiscal Year ended March 31, 1943, shows that this department has an extraordinary large and complicated make-up. Although called the Department of Mines and Resources, it is made up of six branches: mines and geology; lands, parks and forests; surveys and engineering; Indian affairs; immigration; soldier settlement. These six branches are under the jurisdiction of a single Deputy Minister and a single Minister. Only 11 per cent of the appropriation for the Department was allocated to mines and geology branch, almost exactly the same as the amount allocated for the single item of Indian education.

This Association has experienced with gratitude and appreciation the cordial co-operation of the officials of the Department of Mines and Resources. However, the vast amount of work imposed particularly on the Deputy Minister and the Minister by reason of the excessive size and complexity of the department permits them to devote only a fraction of their time to mining affairs. Since mining is, as a primary producer of wealth, second only to agriculture in this country, and since it will become increasingly important as the 80 per cent of Canada fit for mining is opened up, we are strongly of the opinion that its affairs merit, indeed demand, the full-time services of a Deputy Minister and a Minister. We recommend that a Department of Mines be formed, divorced from such extraneous matters as Indian Affairs, Immigration; Lands, Parks and Forests and Soldier Settlement.

(*b*) Ministers of Mines in either the Federal or Provincial Governments should have only one portfolio to occupy their attention, that of the Department of Mines.

The arguments advanced above in favour of a Federal Department of Mines apply with equal force to this recommendation. Proper management of mining affairs in any of the provinces or in the Dominion constitutes a full-time job. No Minister can, nor should he be expected, to give the necessary time to this job if he is loaded down with work involved in other portfolios. We strongly recommend that Ministers of Mines be not asked to assume other portfolios as well, but that they be permitted to give full-time attention to mining affairs within the jurisdiction of their particular government.

(*c*) The position of Deputy Minister of Mines and Resources is now open. We understand that it will be filled some time in the very near future. We wish to take this opportunity to recommend as strongly as possible the appointment of Mr. W. B. Timm, present Director of the Mines Branch. Mr. Timm's qualifications for this position are beyond question. His long experience with every branch of the mining industry and the popularity and esteem in which he is held would point to his appointment at this time of great expansion. His appointment, from the ranks of the Department, would serve as a stimulus to all concerned although it should not be looked upon as simply a reward. The Association feels that Mr. Timm is very definitely qualified for the position.

(20) Diamond Drilling:

One of the most important tools in development and exploration in any stage of mining is the diamond drill. This machine has come to its full size in Canada only of recent years. Canadians have become excellent exponents of the diamond drill. It is a matter of profound disturbance to discover that the price of diamonds for diamond drills has substantially increased in the last six months. The natural result of such an increase in the price of diamonds in an increase in the price of exploration. In addition to the price rise, there has recently developed an acute shortage of drill bit diamonds. It is strongly recommended that this shortage be investigated at once by the Federal Government and that such steps as may be necessary to alleviate the situation be taken.

(21) PRESERVATION OF RECORDS:

In several of the provinces of Canada there are no regulations which require that proper records be kept of all exploration work and diamond drilling. As a consequence information that has cost tens of thousands, yes hundreds of thousands of dollars to win, has been and is continuing to be lost every year. The result, is virtually a criminal waste of time, money and information. As people who are primarily concerned in making new discoveries or in developing old ones, we regard such wasteful procedure with deep concern. We strongly recommend that every effort be made, in the general interest, to obtain and preserve all data concerning each mining development, and that such data be obtained when work is done on the property. The Dominion and Provincial Governments should devise some procedure whereby these data might be gathered and kept. The Province of Quebec has taken certain excellent steps in this direction, and it may also be pointed out that the law has for many years required the filing of such data with the Dominion Government by all oil drilling companies operating in the Dominion.

The assignment, though large, is not impossible, and the benefits to be derived can hardly be over-estimated. We would recommend, therefore, that the staffs of the government bodies concerned be directed and empowered to gather, compile and file all data on preliminary exploration including geological maps, geophysical maps, complete records of diamond drilling and drill plans. A most desirable situation would be to have sufficient staff provided to permit logging of all core in one camp or district by one man, and thus a degree of uniformity could be obtained that is not now possible. This recommendation represents essentially an extension of the work of the resident geologist. I may be taken as further support for a previous recommendation that the number of resident geologists be increased.

(22) EXTRADITION TREATY:

In November, 1945, this Association appeared before the Standing Committee on External Affairs, House of Commons, Ottawa, in connection with an Extradition Treaty and Protocol between Canada and the United States, then under consideration. The Association, represented by Mr. Joseph Sedgwick, K.C., presented an argument designed to show that the proposed extradition treaty and protocol should not be signed on behalf of Canada in its present form. In this stand they formed one of a number of associations, including the Ontario Mining Association, and the Ontario Security Dealers Association. Proceedings of this meeting are given in "Minutes of Proceedings and Evidence No. 5, Standing Committee on External Affairs, Session 1945, House of Commons." The Association has in no way changed its views and urges that the present committee should maintain close watch on any development in this regard, and that it should take whatever steps may be found necessary to delete the objectionable clauses from any such treaty that may be proposed now or in the future.

PROSPECTORS AND DEVELOPERS ASSOCIATION,
(Mrs.) Viola R. MACMILLAN, President.

TABLE No. 5-A

To the Brief of the Western Quebec Mining Association

Average Cost and Earnings per Ton of Ore Treated in Gold Mines of Western Quebec

(a) Values in dollars

—	From inception to 1941 inclusive	1942	1943	1944	Up to 1944 inclusive
Values recovered	7·37	6·62	6·55	6·35	7·07
General	0·59	0·49	0·54	0·57	0·56
Development	0·99	0·78	0·70	0·74	0·90
Mining	1·69	2·01	2·17	2·32	1·85
Milling	0·92	0·86	0·87	0·93	0·91
Sub-total	4·19	4·14	4·28	4·56	4·22
Development write off	0·33	0·20	0·42	0·26	0·30
Depreciation	0·51	0·50	0·60	0·45	0·51
Total operating	5·03	4·84	5·30	5·27	5·03
General administration	0·16	0·14	0·13	0·16	0·15
Total cost of mining operations	5·19	4·98	5·43	5·43	5·18
Profits of the mine	2·18	1·64	1·12	0·92	1·89
Outside operations and extraneous	0·02	0·02	0·02	—	0·04
Non-operating revenue	**−0·04**	**−0·03**	**−0·09**	**−0·13**	**−0·05**
Net profits	2·20	1·65	1·19	1·05	1·90
Income taxes and duties	0·41	0·57	0·37	0·43	0·43
Earned surplus	1·79	1·08	0·82	0·62	1·47

(a) Compiled by the Department of Mines, Province of Quebec.

1946 SESSION

THE SENATE OF CANADA

PROCEEDINGS

OF THE

STANDING COMMITTEE

ON

NATURAL RESOURCES

ON

THE ECONOMIC VALUE OF METALLIFEROUS MINES IN CANADA

No. 5

WEDNESDAY, JUNE 19, 1946

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OTTAWA
EDMOND CLOUTIER
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

STANDING COMMITTEE ON NATURAL RESOURCES

The Honourable J. J. DONNELLY, *Chairman*

The Honourable Senators

Beaubien
  (St. Jean Baptiste)
Burchill
Crerar
Davies
Dessureault
Donnelly
Duffus
Dupuis
Ferland
Hayden
Horner
Hurtubise
Johnston
Jones
Kinley
Lesage
McDonald *(Kings)*
McGeer
McIntyre
McLean
McRae
Michener
Nicol
Paterson
Pirie
Raymond
Riley
Robicheau
Sinclair
Stevenson
Sutherland
Taylor
Vaillancourt
White (34)

ORDER OF REFERENCE

EXTRACT from the Minutes of the Proceedings of the Senate, Thursday, May 2, 1946.

That the Standing Committee on Natural Resources be instructed to examine into the economic value of metalliferous mines in Canada and report to the House its findings, and to that end have power to call and examine witnesses and keep a record of its proceedings.

L. C. MOYER,
Clerk of the Senate.

MINUTES OF PROCEEDINGS

WEDNESDAY, 19th June, 1946.

Pursuant to adjournment and notice the Standing Committee on Natural Resources met this day at 10.00 a.m.

Present: The Honourable Senators: Donnelly, Chairman; Beaubien (*St. Jean Baptiste*); Crerar; Dessureault; Hayden; Hurtubise; McDonald (*Kings*); McRae; Paterson; Sinclair; Taylor; White—12.

The Committee resumed consideration of the order of reference of the 2nd May, 1946, instructing the Committee to examine into the economic value of metalliferous mines in Canada.

A draft report was considered, amended and adopted.

At 11 a.m. the Committee adjourned to the call of the Chairman.

Attest.

A. H. HINDS,
Chief Clerk of Committees.

FINAL REPORT

WEDNESDAY, 18th June, 1946.

The Standing Committee on Natural Resources beg leave to make their fourth report, as follows:

The Committee have in obedience to the Order of Reference of the 2nd May, 1946, examined into the economic value of Metalliferous Mines in Canada.

In the course of its inquiry the Committee has heard briefs submitted by:—

The Ontario Mining Association;
The Western Quebec Mining Association;
The Toronto Stock Exchange;
The Mid-West Metal Mining Association;
The Prospectors and Developers Association, and
The British Columbia and Yukon Chamber of Mines.

The following witnesses were also heard:—

Mr. Sidney Norman, Special Writer, The Toronto *Globe and Mail*;
Mr. A. W. Hawkey, Chemist, Royal Canadian Mint;
Dr. W. C. Clark, Deputy Minister of Finance;
Dr. Charles Camsell, C.M.G., former Deputy Minister of Mines and Resources, and
Mr. W. H. Losee, Director of the Industrial Census, Dominion Bureau of Statistics.

Although the scope of the Order of Reference provided for an examination into the economic value of metalliferous mines in Canada, no representations were submitted on behalf of the base metal mines or any silver mining interests. Accordingly this report is confined to dealing with the submissions made before the Committee on behalf of the gold mining industry of Canada.

Reference, however, is made briefly to the position of the base metals and silver. They enjoy open world markets, and to that extent are different from gold, which has a fixed price. It should be pointed out, too, that the production of all metals in Canada in the period of 1907 to 1944 inclusive amounted to approximately $6,000,000,000. During this period the value of the production of gold amounted to approximately $2,500,000,000. The importance of the contribution in peace and in war of the base metal mines to Canada cannot be too much stressed. However, in this Report, since the submissions made and the evidence given to the Committee dealt with the position of the gold mining industry, attention will be directed particularly to the position and importance and problems of that industry.

During the war years, due to increasing costs of labour, essential materials and equipment and the restrictive regulations in respect thereof, the maximum annual production of the gold mines in Canada was reduced. At the present time these higher costs for supplies, equipment and labour threaten soon to exhaust the narrow margin of average profit earned according to the statements filed on behalf of the gold mining interests of Ontario and Quebec for the year 1944. In 1944 the profit per ton on ore milled had fallen to $1.94 per ton in Ontario, and during the same period, according to the Department of Mines for the Province of Quebec, the net surplus earned per ton of ore produced in Western Quebec was ·62 cents per ton. It will be seen, therefore, that rising costs, together with the fixed price for gold, are closing the gap between the cost of producing gold and the price realized to the extent that the margin of profit is making it more and more unprofitable to mine low grade ores. In these circumstances the picture for the gold mining industry, at this time, is not a happy one. Any further increase in costs will convert into waste rock, so far as gold production is concerned, more of the ore reserves presently reckoned as of value to the producing mines and will, at the same time, reduce the tonnage of available ores for new mines to the extent that the increasing costs make it unprofitable to mine lower grade or marginal ores.

In addition, during the war ore reserves of producing gold mines were decreased in order to maintain some measure of profitable production. Development work was also drastically curtailed due to shortage of labour and materials. Both of these items, namely, maintenance of substantial ore reserves and the opening up of new sources of ore by continuous development, are essential to give assurance of continued profitable operation in the best interests of the particular shareholders, as well as the industry generally and the country.

A considerable amount of exploration work, including diamond drilling, was carried on in the different mining areas during the war years. There are many properties today moving towards the position of producing mines, but substantially increased costs of all labour, materials and equipment, as well as the heavy impost of corporate taxation on producing mines, makes the task of bringing new mines into production very difficult.

Most prospective new mines have expended their capital in the exploration and development of their properties and in proving up the commercial value of their ore. Very often the last stage of providing a mill has to be financed on borrowed money. At this time the increased costs and the rates of corporate income taxation are such that low grade ores cannot be profitably milled and the prospective life of many of the new mines is not such as to merit the additional capital required for the development of the property.

There must also be added to these considerations in relation to the new mines, the fixed price for gold which prevents the recovery by the mine from its production of the increased costs of operations and taxes through an increased price for the product.

Both producing mines and new mines are faced with a definite shortening of their mining life through such a burden of increased costs and taxes, which makes unprofitable the mining of marginal ores.

The gold mining industry of Canada is one of our most substantial industries. In 1941 it produced over $200,000,000. It has no marketing problem. Most of this money is spent in Canada for labour, supplies and equipment, with consequent indirect employment in almost every line of endeavour.

The economic value to Canada of this gold mining industry is two-fold. It provides a large field for employment and the earning of income directly in the prospecting, exploring and developing necessary in the search for and the proving of mines, and in the operations of producing mines and indirectly in the production of materials, equipment and supplies required in such operations. Secondly, it provides a continuing source of a strategic mineral for adjustment of our international trade balances, and for implementing our agreements in relation to international trade, all of which is of immeasurable value to Canada. To illustrate the economic value of the gold mining industry to Canada reference is made to one or two statements filed in the brief of the Ontario Mining Association which is copied into the proceedings of the Committee. For instance, in the year 1941 Ontario produced about $123,000,000 worth of gold. This $123,000,000 was paid out or utilized for the following purposes:

Wages	$42,000,000 00
Fuel and power	6,000,000 00
Supplies	14,000,000 00
Freight and refining, etc.	2,000,000 00
Depreciation of Plant	7,000,000 00
Taxes	14,000,000 00
Dividends to Shareholders	35,000,000 00
Surplus	3,000,000 00

The purchase of mining and milling equipment and general supplies included in these figures covered such items as lumber and timber of all kinds in the amount of approximately $2,850,000, Electric power approximately $4,500,000, Explosives approximately $4,700,000, and numerous other items, including building materials, cars and locomotives, electrical equipment, various types of machinery, tools and chemicals. The item of freight amounted to approximately $2,500,000.

It was estimated by the witnesses who appeared before your Committee that one miner working in the gold mines supported and provided work for at least four other persons in Canada. This will serve, in a general way, to give some outline in skeleton of the extent and importance of the operations of the gold mines of Canada to the industrial and agricultural and financial life of the country.

The population of the various mining areas contributes substantially to the support of the farming industry in these mining areas. The farming industry in the various provinces of Canada where mining operations are carried on benefits generally through the requirements of the mining population which is a large consumer of agricultural products. In addition, the continued production of gold contributes much to the international stability of Canada in her trade and currency relations with other countries.

Lack of understanding of the position and economic value of the gold mining industry in Canada would appear to be a major cause of the present situation of this industry.

As a matter of settled government policy there is no free market for gold. The government takes the entire annual production of the gold mines of Canada. Since this gold production is utilized for the general advantage of Canada in the adjustment of international trade balances, and to aid in Canada's participation in the field of international trade relations, your Committee submits that the importance of this industry merits such action as will provide for a profitable operation and so maintain and expand the operations of this industry in Canada.

It takes more than a Midas touch to recover gold from the ground. The public who provide the financing necessary to carry a property through to production require some assurance of profitable operation to justify their provision of risk capital.

The percentage of mining properties that develop into producing mines is very small in relation to the number of such properties prospected, explored and developed. In Ontario one in one hundred properties reaches the development stage, one-half of one per cent are successful mines.

The risk capital that supports such efforts which do not reach the stage of producing mines is lost to the shareholders, but the country has gained in employment of labour and through consumption of supplies and equipment necessary to such efforts.

It should hardly be necessary to add that new mines from the moment of commencement of production are wasting assets.

In the opinion of the Committee the value of this industry to our Canadian economy is so great that it is recommended that steps be now taken to assure not only the maintenance of the industry on a profitable basis, but its continued development and expansion. To this end your Committee submits the following recommendations for your earnest consideration and, if approved, for such action as may be necessary by the proper authorities to implement such recommendations.

Part I

In respect of new mines, it is recommended that:—

(a) the provisions of Part 13 of the Income War Tax Act, Section 89 of the said Act (which ceased to have any effect after December 31, 1942) be re-enacted so that new mines hereafter coming into production shall be exempt from corporation income tax for the first three fiscal periods following the commencement of production and in addition the rate of corporation income tax for the next two fiscal periods be 50 per cent of the rate then applicable generally to corporations;

(*b*) That the run-in or tuning-up period of six months be continued as in the past, in which no corporation income tax shall be payable, preceding commencement of production for purposes of the exemption recommended in paragraph (*a*) hereof, in order that the milling operations may be fully tested and the staff and workmen efficiently trained. It should be pointed out that during the time when Section 89 of the Income War Tax Act was in force this run-in or tuning-up period was allowed and recognized as a matter of administrative practice and no corporation income tax was assessed for such period;

(*c*) A depletion allowance of 50 per cent for the exhaustion of the mine shall be allowed to be deducted before determining the amount which shall be subject to income tax. Your Committee, in the light of the submissions made by those who appeared and presented briefs, has reached the conclusion that the present allowance of 33⅓ per cent is too low and that the depletion allowance should be restored to 50 per cent which was the rate allowed prior to 1934;

(*d*) Depreciation be not required to be charged during the period of exemption provided in paragraph (*a*) hereof at a greater amount than the annual earnings of the corporation.

Part II

In respect of producing mines your Committee recommends that the depletion allowance of 50 per cent provided under paragraph (*c*) of Part I, in respect of new mines, be also allowed to producing mines.

Part III—General

Your Committee further recommends that the minting charges for gold minted for the industry be the actual cost of such minting only.

Your Committee further recommends, for the consideration of the proper governmental authority based on the representations made before this Committee, that the services of the Department of Mines and Resources be expanded in the interest of the gold mining industry of Canada for the purpose of providing for geological surveys and aerial mapping.

All which is respectfully submitted.

J. J. DONNELLY,
Chairman.