

RP 176(A)

GENERAL REPORT OF THE MINISTER OF MINES OF THE PROVINCE OF QUEBEC FOR THE YEAR ENDING MARCH 31ST 1942

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Énergie et Ressources
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Québec 

GENERAL REPORT

OF THE

MINISTER OF MINES

OF THE

PROVINCE OF QUEBEC

FOR THE YEAR ENDING MARCH 31st

1942



To the Honourable

Major-General Sir Eugène Fiset, Kt., C.M.G., D.S.O., M.D.,

Lieutenant-Governor of the Province of Quebec

Sir:-

I have the honour to submit to you a report on the activities of the Department of Mines during the fiscal year 1941-42.

I have the honour to be Sir,

Your obedient servant,

EDGAR ROCHETTE,
Minister of Mines

REPORT OF THE DEPARTMENT OF MINES OF THE PROVINCE OF QUEBEC
FOR THE FISCAL YEAR 1941-42

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REPORT OF THE DEPARTMENT OF MINES
OF THE PROVINCE OF QUEBEC
FOR THE FISCAL YEAR APRIL 1ST, 1941,
TO MARCH 31ST, 1942

To The Honourable Edgar Rochette, K.C.,
Minister of Mines,
Quebec, Que.

Sir:-

I have the honour to transmit to you a report on the work of the Department of Mines during the fiscal year ending March 31st, 1942, in accordance with section 229 of the Mining Act, chapter 196 of the Revised Statutes, 1941.

It may be mentioned that the preceding fiscal period of the Province covered only nine months, from July 1st, 1940, to March 31st, 1941, owing to a change in the fiscal year.

THE MINING INDUSTRY

During the calendar year 1941, the total value of the mineral production of the Province of Quebec reached a new record figure of almost one hundred million dollars.

The accelerated rate of production was well maintained during the first three months of 1942, to the end of the fiscal year, the output of several products and particularly of copper, gold, silver, asbestos, and cement being appreciably higher than in the corresponding quarter of 1941. It already appears most probable that the value of our mineral production will again attain a new high record in the calendar year 1942.

This growth in the activity of our producing mines is due to the ever increasing demand for metals and minerals. It is directly traceable to war needs, and it will not abate until the cessation of hostilities.

Publication of production figures for individual 'war metals' and for certain of the industrial minerals has been discontinued until the end of the war. Such data as it is permissible to publish, as well as an account of developments in the industry during the year, will be found in the annual report of the Department of Mines entitled "The Mining Industry of the Province of Quebec in 1941".

It is gratifying to record that there was appreciably greater activity during the year in prospecting for new mineral deposits and in staking of mining claims, both at a low ebb in the preceding year. Allowing for the fact that the fiscal period

1940-41 was one of nine months only, the proportional increase in the number of claims staked in the fiscal year 1941-42 was 24 per cent higher, and the number of miners' certificates issued was more than 10 per cent higher. This is the more satisfactory in view of the fact that economic conditions throughout the world are decidedly adverse to devoting time and capital to new mining ventures and searching for new mineral deposits.

Peat Industry

Peat moss has numerous industrial applications, and at present is used mainly as an absorbent material, as heat insulating substance, as a soil amendment, and as bedding for animals; the uses to which it can be put are increasing constantly. To encourage this new industry, which aims to develop the large peat resources of our province, the government in 1941 passed a law authorizing the payment during a period of four years, of a premium on the production of peat prepared for agriculture and horticulture. The output of such peat, which, for the calendar year 1940 had been 3,232 tons, valued at \$81,081, was more than doubled in 1941, when the production reached 7,265 tons, valued at \$173,629. Most of this material was exported to the United States.

MINING TITLES

Tables I and II give particulars relating to the various mining titles issued by the Department of Mines under authority of the Quebec Mining Act during the fiscal period 1940-41 (nine months) and the full fiscal year 1941-42. As may be seen in Table II, the number of titles issued, and hence activity in prospecting, was appreciably greater than in the preceding year, but was far below the average for the past ten or more years.

Table III shows the number of days' work performed, and the amount of diamond drilling carried out, during each of the past ten years on mining claims and on ground held under development licenses.

J.X. Mercier, N.P., is the chief of the Division of Administration.

TABLE I

Various Titles Issued by the Department of Mines

Fiscal Years 1940-41 and 1941-42

Designation of Title	1940-41 (Nine months only)	1941-42 (Twelve months)
Claims recorded, Amos	1,426	2,801
" " , Noranda ...	1,173	1,529
" " , Quebec	416	661
Total	3,015	4,991
Miners' certificates issued.	965	1,589
Development licenses issued.	234	322
Development licenses renewed	1,304	1,614
Mining concessions	2	10
Transfer of titles	334	447
Reports of work: days re- ported	227,282	299,592
Reports of work: diamond drilling, feet	156,740	193,142

TABLE II

Titles Issued Since 1920-21

(Fiscal Years)

Fiscal Year	Number of Miners' Certif.	Number of Claims Recorded	Number of Development Licenses(1)	Mining Concessions		Transfer of Mining Rights
				Number	Acres	
1920-21	493	335	212	5	464	41
1921-22	509	321	195	4	801	33
1922-23	1,973	1,183	238	8	602	210
1923-24	1,928	1,750	635	9	1,517	430
1924-25	2,239	5,143	1,045	17	3,698	729
1925-26	3,315	9,407	1,074	8	1,733	1,152
1926-27	3,799	12,686	1,467	33	7,249	1,155
1927-28	4,090	13,707	2,290	20	6,640	1,227
1928-29	3,086	9,544	2,177	16	5,803	830
1929-30	2,500	8,245	1,607	2	1,049	640
1930-31	1,981	6,034	1,341	3	967	855
1931-32	2,324	8,108	906	4	1,940	425
1932-33	3,178	11,211	1,065	4	2,578	908
1933-34	3,002	10,915	1,557	4	2,627	940
1934-35	3,395	11,397	1,680	9	3,541	987
1935-36	4,043	12,962	1,770	5	2,233	1,078
1936-37	7,099	23,823	2,398	2	990	2,400
1937-38	2,718	12,918	2,932	17	4,089	1,217
1938-39	3,221	10,337	2,777	7	2,123	830
1939-40	2,181	7,325	2,320	4	1,574	555
1940-41(2)	965	3,015	1,538	2	1,029	334
1941-42	1,589	4,991	1,936	10	3,765	447

(1) Prior to June, 1937, these licenses were designated "Mining Licenses".

(2) Interim fiscal period of nine months, owing to change in the fiscal year.

TABLE III

Comparative Statement of Exploration Work Performed on Claims
and Licenses During the Calendar Years 1931-41

Calendar Year	Number of Days' Work	Footage of Diamond-Drill Holes
1931	124,050	23,486 feet
1932	184,815	44,873 "
1933	263,900	49,889 "
1934	500,502	123,257 "
1935	543,094	146,425 "
1936	730,295	202,623 "
1937	910,088	434,903 "
1938	774,709	217,587 "
1939	549,580	299,619 "
1940	335,499	240,370 "
1941	255,352	169,110 "
1942 (6 months).....	104,997	74,301 "

INCORPORATION OF MINING COMPANIES

A considerable decrease in the number of incorporations of new mining companies was again recorded. This is directly due to the fact that so much of the financial resources, and practically all the industrial energy, of the whole country are absorbed by the National war effort. In particular, little capital is at present available for the development of new mining ventures, for several years are liable to elapse between the mineral discovery and the production of ore from the mine, and under the present circumstances immediate results are demanded.

Only thirteen mining companies were incorporated under Quebec charters in 1941. In addition, two companies with Federal charters, and eleven others with Ontario charters, acquired mining rights in the Province of Quebec. This makes a total of twenty-six new mining companies in 1941, as compared with thirty in 1940. These figures are low. The totals in 1939 and 1938 were forty-six and ninety-five, respectively.

Mining Companies Incorporated in the
Province of Quebec in 1941

Name of Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Acme mining & Smelting Corporation, Ltd. (The)	Montreal	March 13	3,000,000	\$ 1
Bartec Mining Company, Ltd.	Bourlamaque	Sept. 19	500,000	\$ 1
Beacon Mining Company, Ltd.	Bourlamaque	May 15	4,000,000	\$ 1
Brique Saguenay, Ltée, (La)	Chicoutimi	Nov. 5	6,000	None
Camp Bird Mines, Ltd.	Val d'Or	July 11	3,000,000	\$ 1
Comberdit Discovery, Ltd.	La Patrie	Oct. 8	290,000	\$ 1
Excel Peat, Limited	Rivière-du-Loup	July 13	3,996	None
Fer de St-Jérôme, Inc. (St-Jérôme Iron, Inc.)	St-Jérôme	May 16	95,000	\$ 1
Horne Fault Mines, Limited	Canton Duparquet	May 12	3,000,000	\$ 1
Industries Minières du Nord, Inc. (Northern Mining Industries, Inc.)	St-Jérôme	May 16	20,000	\$ 1
Papineau Mica Mines, Ltd.	Buckingham	Nov. 19	10,000	\$ 10
United Mining Industries, Ltd.	Montreal	Oct. 30	200	\$100
Uranium (U-235) Corp'n of North America	Montreal	Feb. 25	3,000	\$ 33

Mining Companies with Dominion or Ontario Charter
that acquired mining rights in Quebec during 1941

Name of Company	Head Office	Date of Incorporation	Number of Shares	Par Value
DOMINION:				
Canada China Clay and Silica, Limited	Lac Rémi	Sept. 11	400,000	None
Magdalen Manganese Mines, Ltd.	Toronto	April 7	500,000	None
ONTARIO:				
Barrenier Gold Mines, Ltd.	Toronto	June 21	40,000	None
Gros court Gold Mines, Ltd.	Toronto	March 5	3,000,000	\$ 1
Delandore Sulphur & Iron Mines, Limited	Toronto	Aug. 20	3,000,000	\$ 1
Golden Manitou Mines, Ltd.	Toronto	Oct. 17	3,500,000	\$ 1
Laflamme Barraute Mines, Ltd.	Toronto	Oct. 16	3,000,000	\$ 1
Marbenor Malartic Mines, Ltd.	Toronto	Oct. 16	3,000,000	\$ 1
Pasgil Mines, Limited	Toronto	April 19	3,000,000	\$ 1

Name of Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Rockway Prospecting and Developments, Limited	Toronto	Nov. 4	40,000	None
Tundra Mines, Limited	Toronto	April 1	3,000,000	\$ 1
Veynore Barraute Mines, Ltd.	Toronto	Sept. 11	3,000,000	\$ 1
White Mica Mining Syndicate, Limited	Toronto	July 11	35,000	\$ 1

LEGISLATION

In the course of the 1942 session of the Legislature, which opened on February 24th and prorogued on May 29th, the following measures concerning mining and the mineral industry were passed:

By Act 6, Geo. VI, chap.55, assented to on May 13th, the Department of Mines and Maritime Fisheries was divided into two distinct departments: (1) a Department of Mines administered by a Minister of Mines, having under his direction and control a Deputy Minister of Mines; (2) a Department of Maritime Fisheries, likewise administered by a Minister and a Deputy Minister.

The Honourable Edgar Rochette continues to administer the two departments, and Mr. A.O. Dufresne, formerly Director of the Bureau of Mines was appointed to the post of Deputy Minister of Mines.

By Act 6, Geo. VI, chap.54, assented to on May 29th, holders of claims or of development licenses are relieved from the statutory work, and have the benefit of any reduction in the annual rent which the Lieutenant-Governor may grant, for the duration of the war. The Act reads as follows:

"(1) Section 8 of Act 5, Geo.VI, chapter 35, is replaced by the following:

"8.- Notwithstanding the provisions of the Quebec Mining Act (Revised Statutes 1941, chapter 196), every holder of a claim or of a development license shall be exempt from the obligation to perform the work required by Section 79 of the said Act, even for the purpose of the reduction in the annual rent which the Lieutenant-Governor-in-Council may grant.

"The provision shall apply to development licenses whereof the date of issue or renewal is subsequent to the first of April, 1942, until the expiration of a period of one year after the termination of the present war".

COLLECTION OF DUES ON MINES

In the course of the fiscal year 1941-42, forty mining companies sent in returns of the net profits from their operations, as required by Division III, sections 12 to 24 of the Quebec Mining Act, for the purpose of establishing the duties to be imposed and collected by the Department of Mines. The receipts collected by the Assessor's Division from this source during the fiscal year amounted to \$1,488,917.95.

Section 40 of the Quebec Mining Act provides that mining concessions are subject to an annual tax of ten cents an acre. This tax, however, is remitted if at least two hundred dollars has been expended in mining work upon the concession during the year. In the fiscal year 1941-42, the total sum of \$2,765.30 was collected from eighty-seven dormant concessions, while on seventy-eight others the tax was remitted on affidavit declarations that \$200 or more was expended on each of them during the year.

S. Drouin was in charge of the collection of dues on mines during the year.

Comparative Statement of Revenue Collected by
the Department of Mines, 1939-40 to 1941-42
(Fiscal Years)
(Prepared by Robert Samson, Chief Accountant)

	1939-40	1940-41 (nine months)	1941-42
Miners' certificates	\$ 21,560.00	\$ 8,560.00	\$ 16,270.00
Development licenses	142,231.20	86,228.88	112,075.09
Penalties	7,600.77	110.00	1,160.00
Mining concessions	5,802.61	9,429.00	12,939.80
Transfer of titles	5,240.00	3,243.00	4,235.59
Dues on mining concessions	1,929.55	1,250.97	2,780.67
Dues on village lots	8,087.44	2,511.32	4,682.02
Dues on profits of mines..	1,339,376.24	215,594.21	1,488,917.95
Unwrought metal licenses..		84.00	46.80
Sale of maps, blue-prints, etc.	1,198.62	370.35	514.90
Mineral collections	406.15	230.55	325.00
Assay fees	578.85	225.75	126.30
Provincial Mine-School: Sale of recovered gold..			1,797.56
Rents and sales of material			19,573.53
Totals	\$1,534,011.43	\$327,838.03	\$1,665,445.21

DIVISION OF GEOLOGICAL SURVEYS

During the summer of 1941, the Division of Geological Surveys had five geological parties conducting investigations in widely separated parts of the Province, and one of its geologists was loaned to the Division of Mineral Deposits to undertake investigations of deposits of various kinds in the Eastern Townships and in Gaspé peninsula. The geologists in charge of the several parties, and the object and results of their work, were as follows:

J.A. Retty made a reconnaissance survey of a part of Romaine river and several of its tributaries, in Saguenay county. The object of this work was to explore a hitherto little known region. About 1,000 square miles of territory were covered and, as a result of discoveries of copper-bearing minerals and of ilmenite deposits, an entirely new region was opened for prospecting. It was also shown that a railway route is feasible through this region to form a possible outlet for the Labrador and Ungava iron deposits.

T.H. Clark completed the geological study of the Montreal area, which he had commenced in 1938. Following this work, he made an investigation of the numerous fossils collected during the past eleven years in Gaspé peninsula by various members of the Department's geological staff. This investigation is of value in the possible development of petroleum resources in that part of the Province.

Carl Faessler mapped an area around Simon lake, north of Montebello, in Papineau county. Copper and nickel mineralization had been discovered by prospectors near Cheneville, within this area, which comprises about 380 square miles.

W.W. Longley mapped an area of 400 square miles in the Castagnier area, north of Amos, Abitibi county. The geological formations were found to be similar to those in the gold-bearing belt extending through Senneterre, Val d'Or, and Noranda.

Bruce Graham covered ground of similar geological character in the Wetetnagami Lake area, comprising 300 square miles in the townships of Souart, Moquin, and Labrie, Abitibi county. This area lies fifty-five miles northeast of Senneterre.

Preliminary geological maps and reports on all the areas concerned were published during the fiscal year, thus bringing the most essential information to the attention of the interested public with the minimum delay, and enabling prospectors to study the maps and reports on these areas well in time to plan their campaigns for the summer of 1942.

I.W. Jones is chief of this Division.

DIVISION OF MINERAL DEPOSITS

Under this Division, detailed geological investigations of mining properties or districts are carried out and all available information on the mineral deposits of the Province is correlated

with a view to furthering the development of the mining industry within its boundaries. Technical advice is given to prospectors and to companies engaged in exploration or development.

During the 1941 field season, eight parties were in the field in various parts of the Province. The nature of their investigations and the localities in which they were carried out are briefly set forth in the following paragraphs.

(1)- P.E. Auger was in charge of a party carrying out detailed geological mapping in Dasserat township on the projected extension of the Arntfield-Aldermac-Francoeur mineralized zone. An advance report, P.R. No.172, Devaux Lake Area, has already been issued on the results of this work. It is accompanied by a preliminary geological map.

(2)- P.E. Bourret, non-metallic minerals technologist, examined sixty-two properties in varying stages of development. These are in the southern part of the Province and include mines or prospects involving the following substances: apatite (5), barite (1), china clay (2), copper (1), feldspar (3), garnet (1), gold (1), granite (3), graphite (1), ilmenite (5), iron (3), limestone (2), magnesite (4), manganese (4), marble (1), mica (12), mineral water (1), molybdenite (2), ochre (2), pottery clay (3), and silica (5).

For the most part these examinations were brief inspections, in the course of which technical advice was given to the owners of the properties. In certain cases, however, more intensive investigations were carried out for specific purposes.

The St-Charles ilmenite deposit on lots 44 and 45, range I, Bourget township, was sampled in connection with a metallurgical investigation which is being carried out for the Department in the laboratories of l'Ecole Polytechnique, Montreal.

Some preliminary sampling was carried out on an ochre deposit on lot 746, range St.Michel N.W., Cap-de-la-Madeleine seigniory.

A new ilmenite discovery was sampled on claims Q-30242 and Q-30510 in Charlevoix county, about twenty miles northwest of Murray Bay.

A detailed geological map was made of the immediate vicinity of a mica deposit on lots 6-1 and 8, range I, parish of L'Ange Gardien, Côte de Beaupré seigniory. The mica is of a type suitable for the manufacture of spark-plugs for aeroplanes. This work was carried out at the request of the office of the Metals Controller for Canada.

(3)- Bertrand T. Denis made an investigation of the scheelite (tungsten ore) resources of the Province. In view of the urgent need for tungsten in the armament industry, the office of the Metals Controller was kept informed of the progress of this investigation.

(4)- E.W. Greig carried out geological mapping in Bergeronnes and Pontgravé townships, Charlevoix-Saguenay county, with the principal object of guiding exploration for mica deposits in

the area. An area of about 150 square miles was covered and detailed maps were made of several of the mica deposits encountered. An advance report, P.R. No.166, and an accompanying preliminary map have already been issued.

(5)- H.W. McGerrigle, geologist on the staff of the Division of Geological Surveys, whose services were loaned to the Division of Mineral Deposits, carried out a number of investigations during the field season. It did not seem advisable or necessary at the present time to devote one entire field season to any one of these investigations. Accordingly, each was limited to a few days, or only sufficient time to obtain information immediately desired. These investigations were as follows:

In Chester township, Arthabaska county, deposits of hematite were examined and a geological map of about fifty square miles was made.

Samples from drilling tests for placer gold on Big Hollow brook, in Westbury township, Compton county, were examined and assayed for gold.

A geological map was prepared covering part of New Richmond township, Bonaventure county. On lot 9, range VI, of this township there is a stibnite-bearing vein which has been the object of exploration and development work.

Asbestos and chromite occurrences in Weir township, Bonaventure county, were examined and the geology of the vicinity was mapped. Iron, copper, and asbestos prospects in Port Daniel township were also inspected.

Surface exposures at the Victoria mine, on lot 4, range VIII, Ascot township, were sampled.

Cuttings from old drillings for oil in the vicinity of Gaspé were examined with a view to completing records of the logs of some of these wells.

A compilation of information on Iron Deposits of the Province of Quebec was made and issued in mimeograph form as P.R. No.173.

(6)- F.F. Osborne made a detailed investigation of the molybdenite deposit at the Moss mine, Quyon township.

(7)- S.H. Ross examined fifty-nine properties under exploration or development in Abitibi and Témiscamingue counties.

(8)- Carl Tolman carried out detailed geological mapping in Desmeulizes and Perron townships, Abitibi county. The area he covered is centred at the Normetal mine. An advance report, P.R. No.170, The Normetal Mine Area, has already been issued, with an accompanying preliminary map.

Jean Morency, mining engineer, is in charge of a subdivision whose main object is the classification of geological and engineering plans and reports emanating from or received by the

Department. He also attended to numerous requests from officers of the Department of Mines, from other Departments of the Provincial Government, and from the public, for information on mines or mineral occurrences and other matters connected with the mineral industry. Of these, enquiries, one hundred and ninety-eight necessitated written replies or reports.

Bertrand T. Denis is chief of this Division.

INSPECTION OF MINES

The duties of this Division entail the inspection of mines, quarries, and sand and gravel pits in the Province at regular intervals with the object of ensuring the observance of the Regulations for the Protection of Workmen in Mines and Quarries. In carrying out these duties, the inspectors and constables of the Division follow developments, and report on the progress, of the mineral industry.

The chief of the Division is R.H. Taschereau. During the fiscal year ending March 30th, 1941, there were no additions to the staff.

The Province is divided into six mine-inspection districts:

- 1.-The Western Quebec District, comprising the counties of Abitibi and Témiscamingue, and Abitibi territory.
- 2.-The Eastern Townships, from Richelieu river eastward to Lévis and Dorchester counties, inclusive.
- 3.-The counties of Gatineau, Labelle, Papineau, and Argenteuil, and the area south of the forty-sixth parallel of latitude in Pontiac county.
- 4.-The area comprising the counties east of Joliette, to the north of the St-Lawrence river.
- 5.-The area east of Lévis and Dorchester counties, to the south of the St-Lawrence river, including the peninsula of Gaspé.
- 6.-The city of Montreal and the immediately surrounding area.

The inspection work in the Western Quebec district was carried out by J.N. Herring and H.O. Lalentaine. Lucien Lavigne continued to supervise the inspection of mines and quarries in the Eastern Townships and Ottawa Valley areas until September, 1941, when he was granted leave of absence from the Department to permit him to volunteer for active service. Henri Girard was in charge of inspection work in the St-Lawrence Valley area and in Gaspé Peninsula. Jean de Bérin inspected the quarries and pits in the Montreal area.

Three mine constables are employed by the Department. They were stationed in Thetford Mines, Rouyn, and Amos, respectively. They assisted the inspectors in various phases of their work, in addition to carrying out other duties for the Department.

The services of Jules Leblanc, electrical engineer, were retained by the Department for the equivalent of about four months, in a consulting capacity. Mr. Leblanc inspected electrical installations at most of the mines of the Province, and furnished the Department with experienced advice on more advanced electrical problems.

Two meetings of the inspectors were held in Quebec city during the year, at which problems relating to their work were discussed. In particular, an exhaustive study was made of the regulations for the protection of workmen in mines and quarries and, as a result, certain suggested amendments to the regulations were drafted and submitted to the Lieutenant-Governor-in-Council.

Fatal, as well as non-fatal, accidents in mines and quarries, which were higher in 1940 than in 1939, showed a further increase in the calendar year 1941. It is the general belief that this increase is a direct result of the unsettled labour conditions due to the war, and that it is not to be attributed to unsafe working conditions.

In their campaign to decrease the accident rate in their mines, a number of the operating companies have supplied their employees with copies of safety rules designed for their particular operations. In several cases, in the past, the Department has made French translations of company rules for the benefit of French-speaking employees.

Reports of all compensable accidents are sent to the district inspectors by the mine operators. These reports are then forwarded to the Quebec office. In the case of fatalities, or very serious accidents, the inspector visits the scene of the accident and makes a detailed report. Copies of these reports, in French and English, are multigraphed, and are sent to the managers of mines and quarries, and to other parties interested in mine safety work.

Courses in "First Aid" to the injured were continued at a number of mines. The instruction was provided by the St-John Ambulance Association, or by other competent instructors. On completion of the courses, examinations were held by qualified medical practitioners, and successful candidates were awarded certificates of competency by the Department of Mines. In the year ended March 31st, 1942, 184 certificates were distributed to workers in mines, as follows:

Canadian John's Manville Company, Ltd.	52
East Malartic Mines, Ltd.	22
Noranda Mines, Ltd.	74
Waite Amulet Mines, Ltd.	36

ORE MILL PERMITS

Section 13, paragraph 2, of the Quebec Mining Act (Revised Statutes 1941) provides that "the place and situation of every smelter, mill or refinery, built in the Province of Quebec shall be chosen, determined, or approved by the Lieutenant-Governor-in-

Council". During the fiscal year under review, the sites of four ore mills were duly approved on application of the following operators: Mic-Mac Mines, Limited; Aluminum Company of Canada, Limited; Belleterre Quebec Mines, Limited; and Chromite, Limited.

Also, as is authorized by the same section of the Mining Act, an Order-in-Council was passed renewing the permit of one mining company to ship its ore for treatment outside of the Province of Quebec, for one year commencing on December 1st, 1941.

UNWROUGHT METAL SALES ACT

Under the provisions of this act 18 licenses for carrying on the commerce of unwrought precious metals were issued during the fiscal year.

This law was passed by the Legislature in 1940, for the purpose of facilitating the suppression of illegal traffic in precious metals, principally aiming at "high grading" in mines.

DRAUGHTING AND CARTOGRAPHY

This Division, of which Marc Boyer is chief, employed nine draughtsmen at the start of the year. This staff had been reduced to seven before termination of the fiscal year.

Base maps were prepared during the period under review for the benefit of seven geological field parties leaving for the field in the summer of 1941, and several manuscript geological maps and sketches of previous work done were compiled and drawn and made ready for printing and publication.

The Division of Draughting and Cartography also compiles and draws the plans for the needs of all other divisions of the Department of Mines.

Are kept to date, two series of tracings on linen, plotting on one series all mining claims staked, and on the other the outlines and ownership identification of mining properties. Each tracing in both series covers the area of one township. The first series, showing claims staked, comprises 314 such tracings, on which the outlines of 4,991 new claims were plotted during the period under review; the second series consists of 45 tracings. From these tracings, some 2622 blue prints were struck off during the year.

During the period under review, the Division prepared the following geological maps in colours, and supervised their printing; these maps were released during the year:

- Map No.497 - Matapedia Lake Area.
- Map No.510 - Flavrian Lake Area, Beauchastel and Duprat Townships, Témiscamingue and Abitibi Counties.
- Map No.511 - Barry Lake Area, Abitibi.
- Map No.512 - Buteux Area, Abitibi.
- Map No.526 - Reconnaissance along the Mont-Laurier-Senneterre Highway.

On March 31st, 1942, the following geological maps, prepared by the Division, and to be lithographed in colours, were in the hands of the lithographers:

- Map No.513 - Siscoe Mine Area, Abitibi.
Map No.536 - Quebec Manitou-Fleming Mines Area, Louvicourt Sheet,
Abitibi.
Map No.537 - Quebec Manitou-Fleming Mines Area, Bourlamaque Sheet,
Abitibi.

In addition to the geological maps in colours, nine preliminary editions of these geological maps were produced in black and white to accompany preliminary reports of the geological field work carried out during the season of 1941.

Distribution of Publications

This section of the Division of Draughting and Cartography has charge of the storage and distribution of all publications - maps, reports, and other printed matter - issued by the Bureau.

Mailing lists are kept up to date for the regular distribution of the various publications of the Bureau. This section also attends to all specific requests for our publications and maps, and supplies information concerning reports and maps of all provenance in connection with geology and mining in Quebec.

During the fiscal period under review, 11,448 copies of various Bureau reports and pamphlets on the mining industry and the geology of the Province were distributed, besides numerous separate maps and monthly and quarterly statistical bulletins on the mineral production of Quebec.

DIVISION OF MINERAL STATISTICS

The Division of Mineral Statistics, of which C.O. Beaudet is chief, collects and compiles annual and monthly statistics on the mineral production of the Province and also deals with all enquiries in connection with them.

The statistics collected are not limited to figures of production of mineral substances but include also data relating to workmen and to technical and clerical staff employed in the mining industry, as well as to fuel, electricity, power, and various supplies used in the industry.

A large part of these statistics, and particularly those relating to mineral production and to workmen, are ordinarily presented to the interested public in a report which the Department of Mines publishes yearly on the Mining Industry of the Province. Other data, such as those concerned with power used, supplies consumed, and a variety of other matters that are of interest to a very restricted public, are compiled and kept on record for the use of the Department, and for reference in answering individual enquiries relating to them.

Since 1940, publication of detailed figures of production of 'war metals', and of minerals used in the manufacture of munitions and other war materials - as for example copper, zinc, chrome, molybdenum, asbestos, mica, and pyrite - has been withheld at the request of the Dominion Government, as such informa-

tion might well be useful to the enemy. However, the data are collected and compiled as in the past, for the information of the Federal and the Provincial governments and also to avoid a break in our records of statistics.

These statistics are compiled from returns sent to the Department at the end of each year by all operators of producing mines and by others engaged in the development of mineral deposits in the Province. For the year 1941, requests for data, together with forms for completion by the operators concerned, were sent to 2,528 companies or individuals, and 2,301 replies were received. Of these, 1,273 made complete returns of production and other statistical data; 99 reported that their operations had been limited to exploration or development from which there was no production; and 929 stated that there had been no work of any kind on their properties during the year. Enquiries by our inspectors of mines and quarries showed that very few, if any, of the 227 who failed to make returns did any work on their properties during the year. The monthly statistical bulletins deal only with gold, silver, copper, zinc, asbestos, lime, cement, and clay products, which constitute the main items in the mineral production of the Province. The aim of these bulletins is to follow the trend of production of these substances from month to month. They give early and approximate information rather than accurate figures of production, and thus have a temporary interest only. They are compiled from returns which we request monthly from the producers concerned. An average of about fifty such returns are received each month. In addition, quarterly bulletins on gold are issued, giving, for each mine, the amount produced and the tonnage of ore treated, with cumulative figures for the preceding quarters of the year. Some 300 copies of these quarterly bulletins are distributed to newspapers and companies, and to individuals who request them. Comments on the figures are added to copies sent to the newspapers and periodicals.

DIVISION OF MINERALOGY AND CHEMISTRY

The functions of this Division include the management of the Sampling and Ore Dressing plant of the Mine-School, near Val d'Or, Abitibi; the courses of lectures to prospectors; the Department of Mines' museum; exhibition displays; and the chemical and other laboratories maintained by the Department. Maurice Archambault is chief of the Division.

Government Sampling and Ore Dressing Plant

This plant is adjacent to the Mine-School, near Val d'Or, Abitibi county.

The sampling plant proper has a capacity of three tons per hour. It is designed to treat ores of any type, but more particularly gold ores with coarse gold unevenly distributed.

During the fiscal year under review, a cyaniding plant was added to the sampling plant, to increase the gold recovery in treating bulk samples. The main object of this new installation was to assist more efficiently mines which are at the development

C.E., M.Sc., Paul d'Aragon, B.Sc.Ap., C.E., J.W. Laverdière, D.Sc. (geology); and Léo G. Morin, L.Sc. (geology).

A total of 250 lectures were delivered in the following centres of population:

County	Locality	County	Locality
Abitibi	Dupuy	Matane	Matane
"	La Reine	Papineau	Fassett
"	La Sarre	"	Montebello
"	Taschereau	Portneuf	Lac-aux-Sables
"	Val d'Or		
Charlevoix ..	St-Urbain	Richmond	Richmond
Chicoutimi ..	Jonquière	Rimouski	Rimouski
Gatineau	Maniwaki	Témiscamingue	Latulippe
Labelle	Mont-Laurier	"	Noranda
Laviolette ..	La Tuque	"	Rouyn

Some eight hundred individuals attended these lectures, a notable falling off as compared with previous years. This is due to the fact that many prospectors have joined the armed forces or are working in war industries.

As supplementing the lectures, more than 1,000 copies of the booklet "Notions Élémentaires de Minéralogie" were distributed to prospectors free of charge, as well as numerous copies of the "Prospector's Manual", by Dr. W.L. Goodwin, and of the pamphlet "Prospectors Guide", the latter issued by the Federal Department of Mines and Resources and dealing particularly with the strategic or 'war' minerals, now in such great demand. As a further means of aiding prospectors in the recognition of the common minerals and rocks, collections of typical specimens were sold at a nominal price.

The Museum

Additions to the museum collection during the year included the following donation: a series of samples from the Aldermac Copper Corporation, Beauchastel township, Témiscamingue county, illustrating the possibilities of the Wascotte and Fahrwald processes in the production of various commodities from iron pyrites.

Laboratories

The Department of Mines maintains several laboratories, the central ones being located in Quebec city, headquarters of the Department, in Annex "E" of the Government buildings. They are equipped with the most modern apparatus for the chemical analysis and optical examination of minerals and rocks. In addition to samples received from prospectors and others throughout the Pro-

vince, large numbers of rock and mineral specimens collected by the Department's geologists in the course of their field work are submitted to this laboratory each year for analysis, microscopic examination, or determination.

The oldest of the laboratories of the Department of Mines is located in the building of l'Ecole Polytechnique, 1430 St-Denis Street, Montreal. It serves mainly the public of that district.

The main function of the laboratory at Thetford Mines is the classification and grading of the products of the asbestos mines. This laboratory is equipped with a standard testing machine, which is used to standardize the similar machines in the mills of the various asbestos mining companies of the district.

During the fiscal year 1941-42, the staffs of these several laboratories examined 7,087 samples, which required 11,762 determinations, assays, or analyses, as tabulated below:

Laboratory	Samples Received	Quantitative Assays and Analyses			Determinations (free)	Total
		Assay Coupons	Department Analyses	Paid Analyses		
Quebec ...	5,439	2,692	3,073	205	2,272	8,242
Montreal .	1,167	1,747	---	236	421	2,404
Thetford .	481	---	1,116	---	---	1,116
Totals .	7,087	4,439	4,189	441	2,693	11,762

As may be noted from the table, 4,439 assays and analyses were made gratuitously on presentation of assay coupons. These coupons are granted to claim holders and holders of lands under mining licenses, in conformity with the Quebec Mining Act.

The staff of the laboratories also made complete analyses of titaniferous magnetite and conducted research work on the utilization of the titaniferous magnetite ores of the Province; made seventy-nine determinations of minerals by optical methods, which required the microscopic examination of thin sections; and carried out several spectrograph analyses.

PUBLICATION OF REPORTS

The Division of Publications, of which Albert Côté is chief, is responsible for the editing and printing of geological reports. It also makes up, and supervises the printing of, all forms, letterheads, etc., used by the several Divisions of the Department.

During the year, this Division edited, translated, and supervised the printing of, the following reports:

The Mining Industry in the Province of Quebec for the Year 1940

Geological Report No.9: Matapédia Lake Area, parts of the counties of Matane, Matapédia, and Rimouski, by E. Aubert de la Rüe

Geological Report No.10: Olga-Mattagami Area, Abitibi Territory, by P.E. Auger

Geological Report No.11: Sept-Iles Area, North Shore of the St-Lawrence, county of Saguenay, by Carl Faessler

The Geology of Quebec, Vol. I, Bibliography

The Quebec Mining Act, with other acts and regulations relative to it (Revised Statutes 1941)

The above reports were printed in book form and each was issued as a separate volume. They have a total of 609 pages in the English edition and 622 pages in the French edition.

The following preliminary or special reports, in the form of photo-litho or mimeograph pamphlets, were also issued by this Division:

P.R. 164.- Ste-Hélène-de-Chester, Arthabaska county, by H.W. McGerrigle

P.R. 165.- General Report of the Minister of Mines and Maritime Fisheries for the Year 1941

P.R. 166.- Bergeronnes-Pontgravé Map-Area, Charlevoix-Saguenay county, by E.W. Greig

P.R. 167.- Castagnier Lake Area, Abitibi county, by W.W. Longley

P.R. 168.- Wetetnagami Lake Area, Abitibi county, by R.B. Graham

P.R. 169.- Simon Lake Area, Papineau county, by Carl Faessler

P.R. 170.- Normetal Mine Area, Abitibi county, by Carl Tolman

P.R. 171.- Lower Romaine River Area, Saguenay county, by J.A. Retty

P.R. 172.- Desvaux Lake Area, Dasserat township, Témiscamingue county, by P.E. Auger

P.R. 173.- Special Report on the Iron Deposits of the Province of Quebec, compiled by H.W. McGerrigle

P.R. 174.- List of Mineral Occurrences (Manganese, Beryllium, Molybdenite)

These preliminary reports had a total of 150 pages in the English edition and 172 pages in the French edition.

All the geological reports were issued both in English and in French.

Mr. Côté has as collaborators: R.P.D. Graham, who edits the English version of the reports; Raymond Lesage, R. Brown, and L. Brossard, translators; and André Champagne, proof-reader.

LIBRARY

Charles Dufault, in charge of the Department's library, reports that accessions during the fiscal year 1941-42 numbered 314 volumes and pamphlets, acquired by purchase or by exchange. The library now contains 7,070 volumes, relating, in the main, to mining, metallurgy, mineralogy, geology, chemistry, and allied subjects.

The library subscribed to seventy-four technical periodicals and mining newspapers, an increase of eight as compared with the preceding year. As in past years, numerous publications were received from the Dominion Government and also from the Government of the United States. All of these volumes may be consulted in the library by the interested public.

The work of cataloguing is continuing. The indexing and cross-indexing of titles and topics proves a great time saver to those having to consult, or search the literature for, specific data.

The library committee held regular monthly meetings on the third Monday of each month, to consider recommendations for the purchase of books and subscriptions to periodicals. Questions relating to library administration and rules were also discussed at these meetings.

MINE SCHOOL

The Mine-School was established at Val d'Or, Abitibi county, in 1938 by the Provincial Government, to train young men as efficient miners. It was started as part of the Federal-Provincial Plan for the Training of Youth. The Youth Training Plan Branch of the Provincial Government is attached to the Department of the Provincial Secretary. In co-operation with the Department of Mines, it has charge of the direction and administration of the School. The manager of the Mine-School is G.S. Grant.

During the fiscal year under review, 117 apprentices were admitted for training, 112 were placed in employment in metal mines of Western Quebec, 46 left the School for various reasons, without completing the course, and 14 were in training on March 31st, 1942. The smallness of the present class is due to the fact that many young men who had intended to register at the School either enlisted for overseas service in the war, or were called for Home Service.

Since the opening of the School, in March, 1938, 568 apprentices have been admitted. Of these, 350 secured employment as miners after carrying out the required training and 204 left the School for various reasons, before completing the course.

In the mine, the following development and mining work was carried out by the apprentices:

Drifting	2,135	feet
Cross-cutting	993	"
Raising	112	"
Slashing	37	"

A total length of 4,683 feet of diamond drilling was done during the period under review. Of this footage, 1,536 feet was drilling from the surface and 3,147 feet from underground workings.

Ore broken in the stopes totalled 1,398 tons. Of this quantity, 849 tons was hoisted. Waste rock hoisted amounted to 14,250 tons.

Ore sent to the Sampling and Treatment Plant was as follows:

	<u>Tons</u>	<u>Gold Tenor</u> (oz. per ton)
From stope	849	0.248
From development work .	<u>264</u>	<u>0.089</u>
Total	1,113	of 0.210 (average grade)

From this ore, 161.24 ounces of gold was recovered. Part of this ore went to the Sampling Plant before completion of the cyanide plant, and extraction, therefore, was not high.

Two new veins were discovered during the year on the 4th level of the mine. These are being developed in drifts 405B and 409W. They are parallel, 65 feet apart, strike east and west, and dip 48° to the north. At the end of March, 1942, drifting in 405B had developed an ore-shoot 67 feet long, averaging 0.2 oz. gold per ton over an average width of 33 inches. In 409W drift, the gold tenor averaged 0.11 oz. per ton for 57 feet over an average width of 32 inches. Subsequent work to the west has increased the length and the grade of these shoots.

In stoping No.3 vein between the 3rd and 2nd levels, a short shoot of high-grade ore was encountered. On the 4th level, this vein had shown a very low tenor in precious metals, and its structure was generally weaker.

Among the main improvements made at the property during the year were the following:

Erection of a 15,000-gallon steel water-tank, purchased from Shawkey Gold Mines, Ltd. This was needed for the water supply of the cyanide plant, and it will provide better fire protection.

A concrete floor was put in dormitory No. 3.

An extension was made to the 'dry house', and steel lockers were installed for storing the clean clothes of the apprentices while they are at work.

An extension was made to the garage to provide room for the school tractor and truck.

SCHOLARSHIPS

The Department of Mines, in conformity with its policy of encouraging engineering students to pursue studies in mining, in metallurgy, and in applied geology, offered, in 1941, a number of scholarships to university students specializing in these sciences. The awards of these scholarships are made by a committee, which, for the academic year 1941-42, consisted of: A.O. Dufresne, Deputy Minister of Mines, chairman; Adrien Pouliot, Dean of the Faculty of Science, Université Laval; Armand Circé, Principal of Ecole Polytechnique, Université de Montréal; W.G. McBride, Professor of Mining Engineering, McGill University; J.W. Laverdière, Secretary, Faculty of Science, Université Laval; T.C. Denis, technical officer, Department of Mines; and Jacques Bernier, secretary of the Committee.

The Committee, after due consideration of the merits of the numerous applicants, granted twenty-two scholarships. Four of these were awarded to graduates in mining engineering, metallurgy, or geology, for studies leading to doctorates, and eighteen to students in the upper years of university courses in applied science.

With the approval of the Committee of Awards, these students were distributed in the following universities of their own choice: Ecole Supérieure des Mines, Université Laval; McGill University; Ecole Polytechnique, Université de Montréal; Queen's University; University of Toronto; and Leland Stanford University.

DIVISION OF MINE ROADS

L.A. Saint-Pierre, C.E., reports as follows on the activities of the Division of Mine Roads, of which he is chief:

In the course of the fiscal year which terminated March 31st, 1942, new mine roads totalling 28.19 miles in length were constructed in the Province, bringing the total length of such roads to 983.14 miles. In addition, 62.46 miles of road were improved and completed, and repair and maintenance work was done on 41.51 miles of mine roads.

The total expenditure on this work, during the fiscal year was \$143,655.31, which brings the total cost of the mine roads of the Province, to date, to \$5,225,217.63.

The Department of Mines also expended \$3,148.35 for the maintenance of certain summer roads, and \$8,060.69 to assist and facilitate transportation in the mining regions during the winter months.

The new roads constructed and paid for from Item 152 of the appropriation are the following:

(a) A road, 3.13 miles, connecting the Vicour mine to the Rouyn-Louvicourt road, in Louvicourt township.

(b) A winter road, 5.95 miles, starting from the point of intersection of the four townships of Dasserat, Beauchastel, Mont-

bray, and Duprat, in the counties of Abitibi and Témiscamingue, and extending to the village of Arntfield, in Beauchastel township.

(c) A section of road, 5.00 miles, from lot 7, West Range, to lot 30, Range V, of Bergeronnes township, to serve some mica deposits north of Sirois lake, in Bergeronnes township.

(d) A road, 2.18 miles, from the Mariette mine to the line of range VI, Courville township.

(e) A road, 2.5 miles, to connect some mica deposits east of Des Sables lake with the lake itself, in the township of Bergeronnes.

(f) A road, 1.3 miles, between ranges VI and VII of Barraute township, from lot 38 to lot 46 of this township.

(g) A road, 1.55 miles, from the highway (Perron boulevard) to lot 2, range II of Douglas township, where boring for oil was in progress.

(h) Lengthening by 0.34 mile the road of the St-Lawrence Mica Corporation, at Petit Pré;

(i) A road, one mile long, to connect the High Rock and Old Union mines in the township of Portland-West.

(j) Gravelling the jetty, 0.6 mile long, constructed by Siscoe Gold Mines, Limited, in Montigny lake.

(k) Roads, totalling 4.3 miles, connecting Belleterre townsite, on des Sables lake, with Belleterre mine and the highway, and connecting the mine with Guillet lake.

(l) A road, 0.34 mile, from the Pointe au Père peat-bog to the St-Anaclet-Pointe au Père highway in Rimouski county.

Improvement or extension of the following roads was also carried out under the same appropriation item:

(a) From Guillet mine to the Latulippe-Lac Guillet road, in Guillet and Blondeau townships; 2.65 miles.

(b) From the Saint-Urbain titaniferous iron mines to the road between Saint-Urbain and Baie-St-Paul, in Charlevoix county; 4.5 miles.

(c) Along Grand Cascapédia river, in Gaspé Peninsula; 38.14 miles.

(d) From the chromite deposits on lots 689 and 690, range XII, Brompton township, Richmond county, to the road between ranges X and XI of Orford township, 1.89 miles.

(e) From West-Malartic mine to the Rouyn-Louvicourt highway, Malartic township, 2.8 miles.

(f) From the Mic-Mac mine to the Rouyn-Louvicourt highway, Bousquet township; 4.44 miles.

(g) From l'Isle-Verte peat bog to l'Isle Verte station; 1.0 mile.

(h) From Notre-Dame-de-la-Salette-Poltimore road to the High Rock mine, in Portland-West township; 1.5 miles.

(i) Across lots 16, 17, 18, and 19, in range A of Coleraine township, to serve the chromite deposits on lot 16 of the same range; 0.64 mile.

(j) From a chromite deposit on lot 26 of range II, Coleraine township, to the road on lot 16 of range X of the same township; 4.9 miles.

The Department of Mines has also undertaken to drain certain peat bogs, as an aid in the development of the peat industry in the Province. During the past fiscal year, the following bogs were drained at a cost of \$7,285.85:

- (a) Isle-aux-Coudres bog
- (b) Isle-Verte peat bog, worked by Paul Côté
- (c) Peat bog at Isle-Verte, worked by Alex. Michaud
- (d) Peat bog at St-Marc-des-Carrières
- (e) Peat bog situated between Pointe-au-Père and Saint-Anaclet

DIVISION OF MINING VILLAGES

The chief of this division, Burroughs Pelletier, C.E., reports that there was some slowing down of development projects in mining villages in the gold districts as a consequence of rumours, or the fear, that gold-quartz mines might be closed, in line with the suspension of all gold mining in the United States. In the base-metal mining districts, however, improvements in the mining villages and towns proceeded normally.

In the course of the fiscal year, the town of Malartic submitted two plans of building-lot subdivisions. Malartic Gold Fields, Limited, operating in the townships of Malartic and Fournière, requested that their property be annexed to the already incorporated town of Malartic. In consequence, with the approval of the municipal council of the town, Bill 113 was presented to the Legislature to effect the annexation of this property, as well as those owned by Rand Malartic Mines, Limited, and East Malartic Mines, Limited. The bill was assented to on May 13th, 1942, shortly after the close of the fiscal year.

In the two villages of Cadillac and Pascalis, incorporated as municipalities last year under the provisions of the Mining Villages Act, the various public service activities were co-ordinated and established on a permanent basis. In both villages, and more particularly in Pascalis, plans were considered for the construction or extension of the water-supply and sewerage systems. However, as these villages depend greatly for their welfare on the activity of the gold mines in their vicinity, the un-

certainty as to the immediate future of the gold industry has for the present postponed the realization of these projects. Notwithstanding these conditions, the construction of a main sewer has been started in Pascalis, from Colombière creek to the regional highway, which passes through the centre of the village.

Rouyn-Sud continues as a part of the town of Rouyn. The municipality has constructed sidewalks and draining ditches, and has made various other improvements to the streets.

In Guillet township, the operation of Belleterre Quebec Mines, Limited, having greatly developed, the Company decided, upon the suggestion of the Department, to establish a mining village designed and planned according to modern concepts of the standard of living. In collaboration with the Division of Mining Villages, a townsite was selected on the shore of Aux-Sables lake and received official recognition by order-in-council dated March 21st, 1942. At the end of the fiscal year there still remained the formality of transferring a certain acreage of ground to the Company, which assumed the charge of developing the village. A bill arranging for this and providing for incorporation of the village as a municipality was presented to the legislature and received assent shortly after the end of the fiscal year.

The development of the Mic-Mac mine, in Bousquet township, has raised the question of establishing a mining village in that township. The mining company has been advised of the formalities and conditions to be fulfilled to effect this and is at present considering the question. It is very probable that the project will be realized within the present year.

I have the honour to be, Sir,

Your obedient servant,

A.O. Dufresne,
Deputy Minister of Mines.

Quebec, June 1942.