GENERAL REPORT

OF THE

MINISTER OF MINES

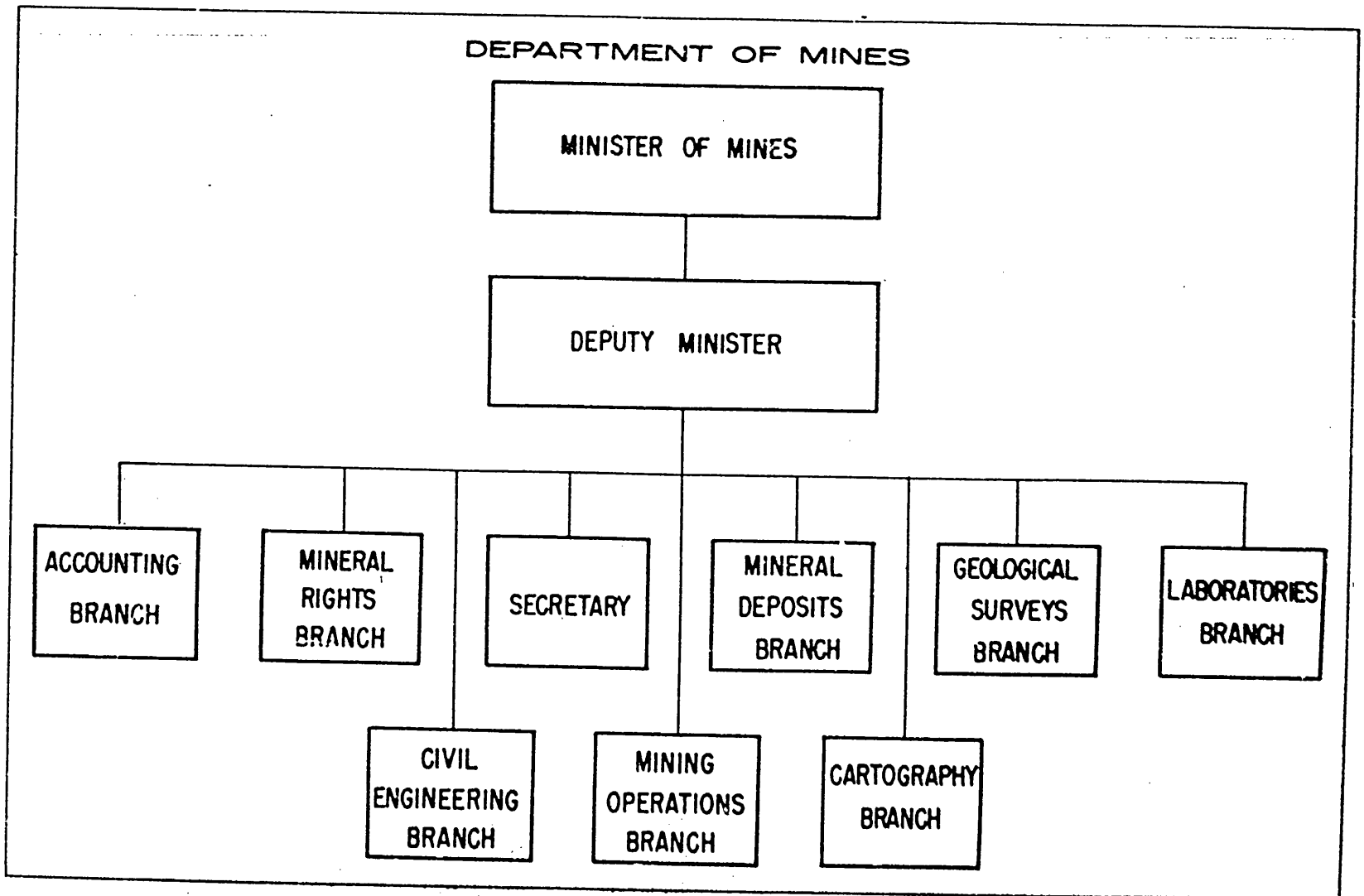
OF THE

PROVINCE OF QUEBEC

FOR THE YEAR ENDING MARCH 31st

1955

P. R. 318



ORGANIZATION CHART of the DEPARTMENT of MINES of the PROVINCE of QUEBEC

Quebec, October, 1955.

To the Honourable
Gaspard Fauteux, P.C., LL.D., D.D.S., L.D.S.,
Lieutenant-Governor of the Province of Quebec.

Sir,

I have the honour to submit to you a summary report of the work carried out by the Department of Mines during the fiscal year ending March 31st, 1955, in accordance with Section 229 of the Quebec Mining Act.

Your respectful servant,

W.M. COTTINGHAM,
Minister of Mines.

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REPORT OF THE DEPARTMENT OF MINES

OF THE PROVINCE OF QUEBEC

For the Fiscal Year Ending March 31st, 1955

To the Honourable W.M. Cottingham,
Minister of Mines,
Quebec, Que.

Sir,

In compliance with the Quebec Mining Act, which states in Section 229, chapter 196, Revised Statutes of Quebec 1941, that "the Minister of Mines shall submit, with his annual return to the Legislature a statement respecting the mines of the Province", I have the honour to present a summary report on the work carried out by the staff of the Department of Mines, during the fiscal year of April 1st, 1954, to March 31st, 1955.

Your obedient servant,

A.-O. Dufresne,
Deputy Minister.

THE MINING INDUSTRY OF THE PROVINCE OF QUEBEC

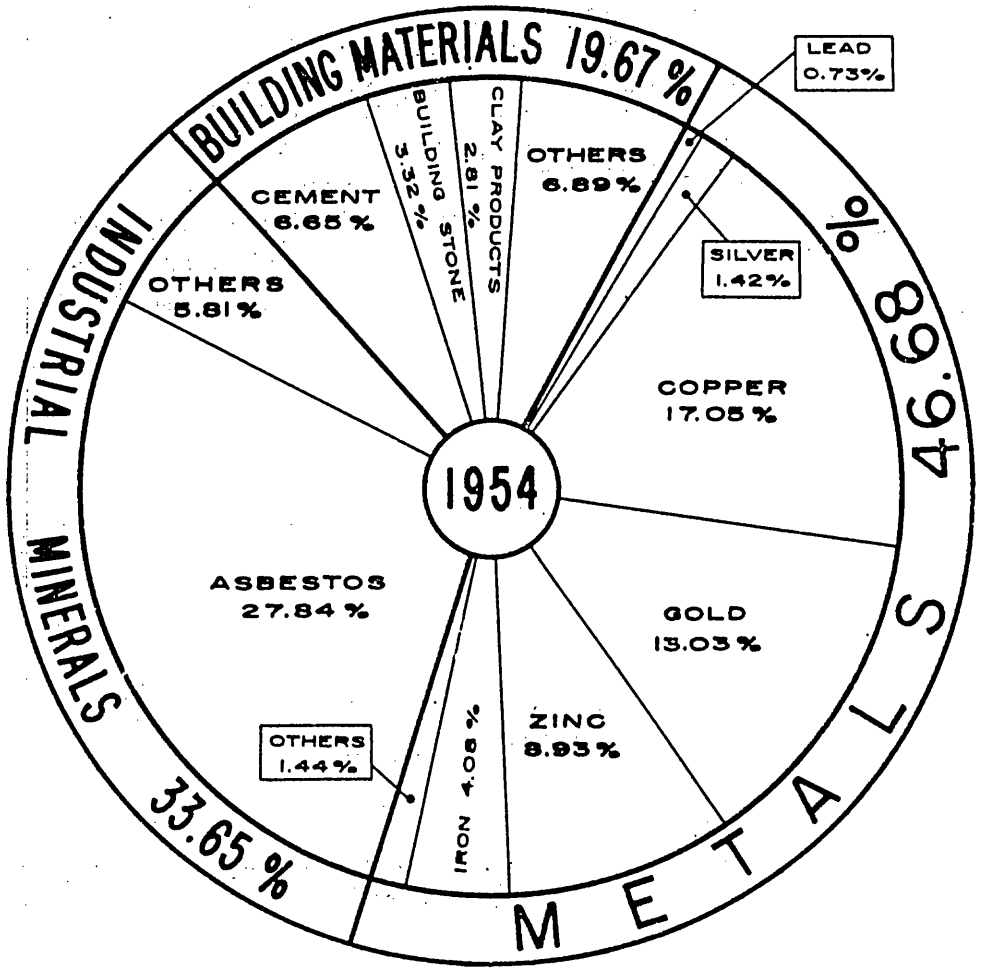
DURING THE FISCAL YEAR 1954-55

The total value of the minerals extracted from the mines of the Province of Quebec during the year 1954 was $287,043,932 representing an increase of $34,700,000 over the amount obtained during the course of the preceding year. The value of the twelve metallic substances extracted during 1954 was $133,991,384 in comparison with $103,278,622 for 1953. The value obtained for industrial minerals was about the same as that for the same period last year. As regards construction materials, there was an increase in production of nearly $4,000,000, mainly due to a larger production and better prices for granite.

The following pie-chart shows the various values expressed in percentages for the substances produced during the course of 1954.

Preliminary statistics compiled for the first three months of 1955 show that the production, this year, will be appreciably

VALUE OF THE MINERAL PRODUCTION OF THE PROVINCE OF QUEBEC



METALS	$133,991,384
INDUSTRIAL MINERALS	96,577,149
BUILDING MATERIALS	56,475,399
TOTAL VALUE	$287,043,932

D.M.G. 1955 No. 1110

Table I.- Value of the Mineral Production of the Province of Quebec for Calendar Years 1953 and 1954

(Compiled by C.-O. Beaudet, Chief, Division of Mineral Statistics)

	Value 1953	Value 1954
METALLICS		
Bismuth	$ 49,136	$ 65,143
Copper	32,886,057	48,948,202
Gold	(a)35,255,511	(a)37,403,238
Iron (ingots)	4,064,039	2,910,663
Iron, ore	---	(b)11,712,355
Lead	2,387,930	2,084,271
Molybdenite	215,527	457,912
Selenium	476,839	675,255
Silver	3,840,732	4,086,423
Titaniferous iron	80,085	9,462
Tellurium	---	928
Zinc	24,022,766	25,637,532
Total metals	$ 103,278,622	$ 133,991,384
NON-METALLICS		
(I.- Industrial Minerals)		
Asbestos	$ 81,000,775	$ 79,906,506
Feldspar	319,146	278,997
Lime, industrial	3,588,822	3,715,051
Limestone, industrial	1,146,076	988,519
Graphite	---	1,093
Magnesitic dolomite, brucite and magnesium	3,056,392	4,394,280
Marl	51,450	58,050
Mica	99,080	78,351
Mineral water	165,334	147,307
Ochre and iron oxide	195,801	183,507
Peat (moss and humus)	587,671	730,250
Quartz and industrial sand	603,524	234,007
Soapstone and talc	160,546	165,742
Sulphur	1,211,343	1,854,489
Titanium (oxide in slag)	4,206,496	3,841,270
Total industrial minerals	$ 96,392,456	$ 96,577,149
(II.- Building Materials)		
Lime, building	$ 614,105	$ 623,814
Limestone, building	9,195,468	9,536,764
Cement	19,232,112	19,108,680
Clay products (Brick	6,095,824	6,227,660
Clay products (Other products	1,973,581	1,826,526
Granite	3,265,420	5,182,356
Marble	140,328	170,787
Sand and gravel	11,630,482	12,985,931
Sand-lime products (Brick	397,924	320,925
Sand-lime products (Blocks	19,200	68,116
Sandstone	116,359	278,888
Slate and shale	2,300	144,952
Total building materials	$ 52,683,103	$ 56,475,399
Grand total	$ 252,354,181	$ 287,043,932

(a) Value in Canadian funds. The standard value at the rate of $20.671834 per ounce troy is $22,694,263 for 1954 and $21,173,622 for 1953.

(b) Owing to the uncertain location of the boundary line, it is impossible, under existing conditions, to give the exact amount of ore derived directly from Ungava. The value of ore from Ungava and Labrador in 1954 is $11,712,355, the greater part of which might have come from Labrador.

higher, probably exceeding $325,000,000. This amount is mainly due to a more sustained production of metallic substances from Western Quebec mines, more important shipments of iron ore from New Quebec and the beginning of production of the new mines of the regions of Chibougamau and Gaspé.

The most important mining events of 1954 and the first part of 1955 deal with the exploitation of the iron ore deposits of New Quebec. The first shipments of ore extracted from that region were made on June 21st. Part of the ore making up the first shipments come from the Gagnon deposit, formerly known as Ferriman. It was also during the month of June that the new hydro-electric power developments, installed by Ste-Marguerite Power Company along the Ste-Marguerite river, were inaugurated. The electricity produced along that river is used to service the ore-loading installations established near Sept-Iles, at Pointe-aux-Basques, and to serve the population of the town of Sept-Iles. The electrical energy required for the extraction of the ore and for the operation of the various establishments at Schefferville was also transmitted for the first time from the Menihek hydroelectric power plant towards the end of June, 1954.

On July 31st, 1954, the freighter "S.S. Hawaian" took aboard a first shipment of 20,000 tons of iron ore at Sept-Iles for delivery at Philadelphia, U.S.A. The first shipment of iron ore towards the Great Lakes, via the St-Lawrence waterways, was completed early in August of 1954, whereas the first shipment of iron ore to Europe took place during the month of October, this last shipment being destined to Rotterdam.

The last shipment for that year was made December 5th. The total shipments for 1954 amounted to 1,781,453 tons of ore, of which 1,611,431 tons was shipped by way of the Atlantic ocean, whereas 170,022 tons went by way of the St-Lawrence canal system. Between June 20th and November 25th, over two million tons of ore was transported from the mine (Schefferville) by rail to Sept-Iles. This tonnage was assigned to 166 ships between July 31st and December 5th.

Taking into consideration the progress of the projects realized both in New Quebec and at Sept-Iles, everything seems to indicate that the shipments for 1955 should considerably exceed seven million tons planned to be sent to the mills by the company concerned. As regards the other mining companies holding mining rights on ferriferous formations in New Quebec, exploration work was carried out at an accelerated pace, but, so far, none of them has announced any definite plans for the mining of the ore discovered as far north as the west coast of Ungava bay.

Table II.- Subdivision of the Annual Value of the Mineral Production of the Province of Quebec, in 1949-1954

Year	Metals	Per Cent	Industrial Minerals	Per Cent	Building Materials	Per Cent	Total
1949	$ 82,728,089	51	$47,173,969	28	$35,266,545	21	$165,168,603
1950	108,897,715	49	73,128,980	33	38,638,408	18	220,665,103
1951	120,257,513	47	89,010,161	35	46,664,148	18	255,931,822
1952	120,283,133	44	97,233,834	36	53,222,585	20	270,739,552
1953	103,278,622	41	96,392,456	38	52,683,103	21	252,354,181
1954	133,991,384	47	96,577,149	33	56,475,399	20	287,043,932

During the month of May, 1954, the Canadian Government announced that the Canadian National Railways would proceed without delay with the construction of a 150-mile railroad which will link lake Caché, near Chibougamau, to Beattyville, in the Barraute region. This railroad should be completed during the summer of 1956. The Department of Mines also started, during the month of November, 1954, the completion of the 38-mile road between Cameron lake and Bachelor lake. This new road will give easy access to the promising region of Lesueur township, situated about 85 miles west of Chibougamau. As regards the construction of the railroad linking Chibougamau to St-Félicien, near lake St. John, the Canadian National Railways has postponed to a later date their final decision.

At about the same time, Eastern Smelting and Refining Company announced the construction of a smelter capable of treating copper and nickel ores. This new smelter, which will be in Chicoutimi, will be able to treat about 200 tons of nickel-copper ore concentrates and 200 tons of copper-ore concentrates a day.

In the domain of metallurgy, an important announcement concerning the processing of ilmenite ores, such as those presently being mined at Allard Lake, was made by Shawinigan Water and Power Company. This company has revealed that it succeeded in producing metallic titanium by an electrolytic process. The company believes that with this new process it can produce metallic titanium on a commercial basis at prices substantially lower than those presently existing.

The most important development in the region of the asbestos mines consists in the official inauguration of a new processing

plant by Canadian Johns-Manville Company Limited, on September 30th, 1954. This new plant, built to replace the present establishments, is but the first part of the complete mill which is to be finished by the spring of 1956. This new plant will have an annual production capacity of 625,000 tons of asbestos fibres, an equivalent of 2,500 tons of fibres per day.

It was also during the course of 1954 that the new Normandie asbestos mine, situated in the Thetford Mines district, was inaugurated. The new deposit, the proved reserves of which have been assessed at 35 million tons, is exploited by Asbestos Corporation Limited. In Gaspé, exploitation operations started by Gaspé Copper Mines Limited was delayed slightly by difficulties incurred in the transmission of electricity by sub-marine cable. The ore concentrator, therefore, will process only 2,000 tons of ore per day instead of the projected 6,500 tons. This production capacity is to be increased as early as the autumn of 1955.

LEGISLATION

Amendments to the Quebec Mining Act passed between April 1st, 1954, and April 1st, 1955.

1.- Section 50 of the Quebec Mining Act (Revised Statutes, 1941, chapter 196) is amended by replacing, in the seventh and the eighth lines of the fifth paragraph, the words "five years preceding the 1st of March 1939" by the words "twenty-one years following the 1st of March 1934".

2.- Section 51 of the said act is replaced by the following sections:

"51. When the Minister wishes to recommend to effect a revocation of mining concessions or mining rights, he shall cause a notice to that effect to be served upon the owner. If the owner does not reside in the Province, is unknown or cannot be traced, the Minister shall give such notice by causing it to be published in two consecutive issues of the Quebec Official Gazette and, during the same period. twice in a French newspaper and in an English newspaper that are published in Montreal, in Quebec and, if any there be, in each judicial district in which such mining rights are wholly or partly situated.

"51a. After the expiration of the ninety days following the last publication of such notice in the Quebec Official Gazette, the Lieutenant-Governor in Council, upon the recommendation of the Minister, may make the revocation provided for in section 50, unless

the owner proves that such mines are necessary to him for a reserve to secure the continuity of the mining enterprises exploited by him in the Province.

"51b. Whenever mining concessions or mining rights are revoked under sections 50, 51 and 51a, the mines concerned shall revert to the public domain of the Crown, and cannot be made available for exploration or development except by virtue of special permits authorized by the Lieutenant-Governor in Council and upon such conditions as he shall determine.

"51c. On all minerals exploited by the holder of such special permit, the owner of the mining rights at the time of revocation shall be entitled, by way of compensation, to an annual royalty of five per cent of the profits resulting from such exploitation, established in accordance with sections 14 and 15.

Such royalty shall be payable by the operator, but shall be collected by the Minister at the same time as the duty on profits payable to the Crown for the same financial year.

"51d. The Minister shall remit to the owners concerned the royalties collected on their behalf under section 51c.

If several owners are interested in the same mining rights and do not agree as to the division of the royalties paid by way of compensation, the amount thereof shall be deposited, to avail as a judicial deposit, in the hands of the Minister of Finance of the Province, with the same effect as in the case of a deposit made under sections 46 to 67 of the Department of Finance Act (Revised Statutes, 1941, chapter 71 as implicitly amended by the act 2-3 Elizabeth II, chapter 46); and any person claiming rights to such compensation may apply, after such deposit, to the competent court according to the amount claimed, by petition served upon the Minister of Finance of the Province, to have such rights acknowledged and, upon producing the judgment rendered, may obtain payment, out of such deposit, of the amount awarded him.

The provisions of the second paragraph of this section shall also apply in the case of owners of mining rights who are unknown or who have no known domicile in the Province.

"51e. The above sections shall not apply directly or indirectly to mines producing oil, petroleum or gas".

3.- Section 75 of the said act is amended:

a) by replacing, in the fourth and fifth lines of the first paragraph, the words "one hundred miles or over in a straight line from a railway" by the words "north of the fiftieth degree latitude north";

b) by replacing, in the first and second lines of the last paragraph, the words "at or over one hundred miles from a railway" by the words "north of the fiftieth degree latitude north";

c) by striking out all the words included in the twelfth line and following lines of the last paragraph to the end of the latter.

4.- Section 80 of the said act is amended by replacing in the last line of the first paragraph, the words "and geophysical prospecting" by the words ", and geophysical and other scientific research work".

5.- Section 79 of the Quebec Mining Act (Revised Statutes, 1941, chapter 196), amended by section 1 of the act 11 George VI chapter 57, and by section 6 of the act 13 George VI, chapter 57, is again amended:

a) by replacing subsection 1 by the following:

"1. Every development license shall be granted on payment of a fee of ten dollars, and of an annual rental of twenty-five cents per acre, and upon affidavit that the required work has been done";

b) by replacing, in the twenty-first line of subsection 2, the words "Superior Court" by the words "Magistrate's Court of the judicial district of Quebec";

c) by replacing, in the seventh line of the first paragraph of subsection 4, the word "fifty" by the word "twenty-five";

d) by replacing, in the fifth line of subsection 5, the words "fifty cents" by the words "three dollars";

e) by replacing subsection 7 by the following:

"7. When adjacent lands are partly under mining concession and partly under development license or under mining claim in the name of the same person, firm or company, and may be considered as one and the same enterprise, it shall be lawful for the minister to

permit all the work necessary for the issuing or renewing of the license to be done on the lands covered by the mining concession.";

f) by repealing the penultimate paragraph of the said section.

6.- The fact that a rental of only twenty-five cents per acre has been required for the issue or renewal of development licenses between the first of July 1954 and the date of the coming into force of this act shall not invalidate such licenses.

7.- The provisions of paragraph d of section 1 of this act shall have effect as from the thirty-first of October, 1955.

These changes constitute Chapters 38 and 39 of the Quebec Statutes 2-3 Elizabeth II, 1954-1955.

MINERAL RIGHTS BRANCH

During the course of the fiscal year under review, an important increase was recorded in the number of mining claims registered at the various agencies of the Department of Mines, except those at Noranda, where there was a diminution of nearly five hundred claims in the registration list.

The increase in the number of miner's certificates issued annually, as well as the number of claims registered during the course of the last few years, has required the establishment of a new registration office in Montreal. Although the Montreal office existed since 1925, it could issue only miner's certificates without registering them.

The Montreal registration office, inaugurated officially January 17th, 1955, recorded 671 claims during the course of the first three months of the year 1955. This new office brings to five the number of registration offices situated in the Province of Quebec, the others being located at Amos, Noranda, Quebec, and Chibougamau. Mr. Harry Ledden is chief of the Mineral Rights Branch.

During the course of the fiscal year under review, the holders of miner's certificates staked out 31,702 mining claims, as compared with 23,667 for the preceding year. The number of development licenses issued and renewed, however, was reduced from 6,905 to 6,739 for 1954-55.

During the course of the fiscal year 1954-55, three special mineral exploration licenses were issued, namely: Lowlands Explorations Limited, August 5th, 1954; Romuald Rioux, August 10th, 1954; and Eastern Canada Gas and Oil Limited, November 1st, 1954.

Table III.- Various Titles Issued by the Department of Mines
(Fiscal Years 1953-54 and 1954-55)

Designation of Title	1953-54	1954-55
Claims registered at Amos	5,617	8,814
Claims registered at Noranda	4,008	3,514
Claims registered at Quebec	10,860	14,533
Claims registered at Chibougamau	3,182	4,170
Claims registered at Montreal		671
Total	23,667	31,702
Miner's certificates issued	10,558	10,987
Development licenses issued	1,456	1,854
Development licenses renewed	5,449	4,885
Mining concessions	8	3
Transfers of titles registered	2,154	3,102
Reports of work: man-days reported	687,694	618,785
Reports of work: diamond drilling in feet ...	420,960	233,178

Table IV.- Mining Titles Issued since 1945-46

Fiscal Year	Number of Miner's Certificates	Number of Claims Recorded	Number of Development Licenses	Concessions		Transfers of Mining Rights
				Number	Acres	
1945-46	9,225	26,501	8,676	7	2,566	3,721
1946-47	5,408	16,332	9,885	12	4,475	2,166
1947-48	5,119	16,735	6,858	14	6,065	1,448
1948-49	4,425	14,000	5,647	5	995	1,431
1949-50	4,608	14,398	5,168	6	994	1,115
1950-51	6,594	19,787	5,407	9	3,717	1,513
1951-52	7,531	22,807	5,407	8	1,019	2,396
1952-53	7,577	21,912	6,562	9	2,042	2,410
1953-54	10,558	23,667	6,905	8	908	2,154
1954-55	10,987	31,702	6,739	3	211	3,102

Table V.- Comparative Statement of Exploration Work on Mining Claims under License During Calendar Years 1945 to 1954

Year	Number of Work Days (man-days)	Diamond Drilling (in feet)
1945	250,846	205,991
1946	1,463,934	1,296,074
1947	3,186,453	2,753,671
1948	772,568	517,526
1949	595,581	345,818
1950	498,460	317,558
1951	956,451	705,570
1952	871,307	590,788
1953	672,900	394,194
1954	664,447	295,221

INSPECTION OF MINES BRANCH

The Chief Inspector of Mines, R.H. Taschereau, submits the following report for the period under review.

The main duties of this Branch comprise:-

a) the inspection of mines and quarries to ensure the observance of the "Regulations for the Safety and Protection of Workmen in Mines and Quarries";
b) keeping the Department informed on the development and progress of the mining industry of the Province.

In accordance with the provisions of Section 196 of the Quebec Mining Act, all compensable accidents are reported by the mine and quarry operators to the Inspectors, and the latter classify these reports and forward them to the Quebec office. In the case of accidents of a very serious nature, even where no loss of life may have occurred, the Inspector makes a thorough investigation and report. These reports, both in French and English, are mimeographed, and copies are forwarded to all the mine and quarry operators, and to other interested parties.

In addition, the Inspectors of Mines keep the Department advised as to the observance of various sections of the Quebec Mining Act, notably those dealing with operational problems such as mill-sites, tailings-sites, water supply, and permits to export ores and concentrates, and carry out special investigations on instructions from their superiors.

For inspection purposes, the Province is divided into three districts.

No. 1 district comprises that part of the Province lying to the south of the St. Lawrence river and east of the Richelieu river.

No. 2 district extends from Pontiac county, eastward to the Richelieu river, as well as that part of the Province lying to the north of the St. Lawrence river, including New Quebec.

No. 3 district comprises the counties of Abitibi-East, Abitibi-West, Rouyn-Noranda and Temiscamingue.

In the 12-month period under review, Mr. André Thibaudeau, Ventilation Engineer, resigned. Studies of air conditions in underground workings and surface plants were completed at 20 mines, and, in most cases, this involved a number of extensive ventilation surveys and the sampling and counting of 181 samples of air-borne dust.

Mr. Lucien Trudel, Senior Electrical Engineer, carried out 47 inspections of electrical installations at mines and quarries, in addition to a number of special investigations.

Mr. E.O. Larivière, Special Agent attached to the Noranda office, assisted the Inspectors in various phases of their work, and carried out other duties assigned to him.

Under the direction of Maurice Lafontaine, assistant chief inspector, assisted by G.S. Grant, the Mine Rescue Training Plan was continued in Western Quebec, and, during the year, 67 new men completed the course. About 300 active mine rescue personnel are now distributed amongst 25 producing mines in the district. Refresher courses were continued to ensure that holders of certificates do not lose their efficiency.

A partial summary of the work of the Mines Inspection Branch is presented in the following table:

Inspection of Mines and Quarries	281
Mine Rescue Certificates issued	54
Mine Rescue Station Reports received	157
First Aid Certificates issued	83
Unwrought Metals Licenses issued	13
Unwrought Metals Reports received	228
Hoisting Rope Breakage Tests reported	371
Hoisting Rope Records received	294

Steam-boiler Inspection Reports received	131
Hoistmen's Medical Certificates issued	277
X-ray Examinations - Western Quebec	8,953

The Inspection Branch records its appreciation of the cooperation received from many sources, and particularly from other branches of the Department, from the Quebec Workmen's Compensation Commission, and from mine and quarry operators throughout the Province.

GEOLOGICAL SURVEYS BRANCH

This Branch, under the direction of I.W. Jones, had its most active year to date in carrying out its principal function, that of investigating the geology of extensive regions in different parts of the Province so that it may indicate areas to which prospectors, geologists and mining companies may direct their search for mineral deposits. A greater number of geologists were engaged during the year under review than in any previous year, in spite of the continued difficulty in obtaining qualified personnel in face of keen competition from private industry for the services of geologists. The year also saw this Branch cover more territory in its investigations than in any year before; but, as has been mentioned in preceding reports, much yet remains to be done to accomplish only a first exploration of all the Province.

During the summer of 1954, there were seventeen geologists in charge of investigations for this Branch. Of these geologists, sixteen investigated and mapped the geology of specific areas in widely separated parts of the province, compared to twelve in 1953, and one geologist was in charge of investigating problems of water-supply in different sections of the inhabited parts of the province. There was also one geologist supervising and aiding in some of the investigations in the southern part of the province, and another geologist assisted in administrative and other duties.

In addition to the seventeen geologists in charge of the various investigations, the parties sent out by the Geological Surveys Branch in 1954 required the services of eleven other graduate geologists, twenty-nine university students, and thirty-three other men engaged as canoemen, portageurs and cooks.

In all, about 3,625 square miles of territory were geologically mapped during the work of 1954, an increase of nearly 1,000 square miles over the territory covered in 1953 (2,660 square miles).

The areas examined and the geologists in charge of the investigations in 1954 were:

Northern Ungava

Two geological parties examined areas southwest of Ungava bay, where important discoveries of copper, nickel, zinc and lead deposits were made during the summer of 1953 and where there are also possibilities of finding iron deposits:

Pierre Sauvé mapped the east half of the Gérido Lake area, between latitudes 58°00'-58°15' and longitudes 69°30'-69°45', about 50 miles west of Fort Chimo.

Robert Bergeron covered the west half of the Thévenet Lake area, between latitudes 58°00'-58°15' and longitudes 69°15'-69°30', about 35 miles west of Fort Chimo.

Chibougamau Region (Abitibi-East and Roberval Counties)

André Deland investigated the Gradis-Machault area, southwest of Chibougamau, between latitudes 49°09'-49°30' and longitudes 75°00'-75°15'. The area, comprising parts of Gradis, Machault, Druillettes, Langloiserie, L'Espinay and Bressani townships, is in a belt of rocks favourable to finding gold and copper deposits such as those of Chibougamau and other parts of Abitibi. Some radioactive minerals were discovered in the late summer of 1954, about a mile south of the area, in Bressani township. This part of Bressani township had been mapped for this Geological Surveys Branch in 1939, and it was our report on the area that drew prospectors to search for radioactive minerals at the place of their discovery in 1954.

André Laurin mapped the Ducharme-Bouteroue area, about 25 miles south of Chibougamau, between latitudes 49°15'-49°30' and longitudes 74°00'-74°15'. The area includes all of Ducharme and most of Bouteroue township as well as parts of the townships of Robert, Rohault, Charron, Mignault, Aigremont, La Dauversière and Mance. It is in a region of metamorphic rocks that prospectors have generally neglected, but our work is indicating that such areas do have possibilities.

Rouyn-Noranda County

P.V. Freeman began a geological investigation of the Béraud-Mazérac area. The area covered, between latitudes 47°45'-48°00' and longitudes 78°00'-78°15', comprises Des Roberts and Mazérac townships, and parts of the townships of Béraud, Landanet, Laubanie and

Jourdan. The rocks may be of the same age as those of the copper-gold producing belt to the north, although they are more metamorphosed. Radioactive minerals had been reported in the region, and indications of copper, beryl, feldspar, apatite, graphite were noted during the 1954 work.

Saguenay County

Two geological parties worked in or near the region that is being opened by the railway that has just been completed northward from Sept-Iles to tap the big iron fields of Ungava and Labrador. A third party worked in the southwestern part of this vast county, in the vicinity of the large-scale hydro-electric power development under construction on Bersimis river north of Forestville:

Roger Blais covered the Waco Lake area, bordering the railway about 80 miles north of Sept-Iles, and between latitudes 51°15'-51°30' and longitudes 65°30'-65°50'. Indications of copper, molybdenum, titaniferous magnetite, and ilmenite were noted during this work.

M.A. Klugman mapped the Bailloquet area, about 50 miles east of Sept-Iles, extending from the St. Lawrence shore northward for 16 miles to latitude 50°30', between longitudes 64°55' and 65°15'. The area includes all of Bailloquet township and parts of the townships of Touzel and Coopman, as well as a three-mile-wide strip that is in non-subdivided territory to the north of these townships. Deposits of ilmenite and magnetite were observed, as well as small amounts of copper-bearing minerals.

René Béland and Marcel Morin began the study of the rocks being exposed in the eight-mile tunnel being driven in connection with the large-scale hydroelectric development under construction on Bersimis river near Labrieville, and they also began investigating the rocks in the region surrounding these operations, particularly in those parts that will be flooded after completion of the dams that also are being built in connection with this project. Mr. Morin took charge of this geological work in midsummer when Dr. Béland was transferred to an area in Gatineau county, and Mr. Morin returned to Labrieville periodically during the winter of 1954-1955 to study the rocks as work in the tunnel progressed.

Gaspé-Nord and Matane Counties

H.W. McGerrigle commenced geological investigation of the Cap Chat area, from the southern shore of the St. Lawrence to south of latitude 49°00' and between longitudes 66°30' and 67°00'. Heavy

rains and fog of 1954 prevented extending the work southward into the Shickshock mountains, but most of Cap-Chat, Romieu and Dalibaire townships were covered.

L'Islet and Kamouraska Counties

Jacques Béland mapped the Ste. Perpétue area, about 70 miles east-northeast of Quebec City, between latitudes 47°00'-47°15' and longitudes 69°30'-70°00'. The area includes Chapais and Lafontaine townships, and parts of the townships of Ixworth, Painchaud, Ashford, Dionne and Garneau. This work was a continuation of the investigation of the region extending northeastward from the nickel- and copper-bearing deposits discovered in recent years near St. Fabien-de-Panet in Montmagny county.

Beauce and Dorchester Counties

Continuing geological investigations southwestward from the nickel-copper zone of Montmagny county, W.A. Gorman in 1954 covered the Saint Georges-Saint Zacharie area, between latitudes 46°00'-46°15' and longitudes 70°15' and 70°45'. The area comprises parts of the parishes of Saint Georges and Saint François and parts of the townships of Shenley, Jersey, Linière, Metgermette-Sud, Metgermette-Nord, Watford, Cranbourne and Langevin. Placer gold was produced from this area and the neighbouring Chaudière basin during the last half of the 19th century.

Arthabaska and Mégantic Counties

H.C. Cooke, continuing his investigations of the Eastern Townships, in 1954 covered the west half of the Arthabaska area between latitudes 46°00'-46°15' and longitudes 71°45'-72°00'. The area comprises parts of the townships of Stanfold, Arthabaska, Chester, Halifax and Somerset. A start was also made on the mapping of the east half of the Arthabaska area.

Chateauguay, Huntingdon, Napierville-Laprairie, and St. Jean Counties

T.H. Clark began geological investigation of the Chateauguay area and, in 1954, he covered the eastern part between latitudes 45°00'-45°15' and longitudes 73°30'-73°45'. Also, as part of his continued programme of investigating the St. Lawrence Lowlands, with special attention to oil and gas possibilities, he completed his study of the eastern half of the Laurentides map-area, in Montcalm, L'Assomption and Terrebonne counties, most of which had been examined during the previous year.

Pontiac County

Robert Sabourin mapped the Bristol area, between latitudes 45°30'-45°45' and longitudes 76°15'-76°30'. Extending also southward to the Ottawa river, the area comprises Bristol township and parts of the townships of Clarendon, Thorne, Aldfield and Onslow. The area has deposits of iron, molybdenum, zinc, copper and marl, and there are some indications of radioactive minerals.

Pontiac and Gatineau Counties

D.R. Baker examined the Aylwin-Cawood area between latitudes 45°45'-46°00' and longitudes 76°00'-76°15'. The area includes most of the townships of Low and Aylwin as well as large portions of the townships of Alleyn, Cawood, and Aldfield and small parts of Hincks and Masham townships. There are possibilities of finding radioactive minerals in this area in which there are also some mica, molybdenite and small copper deposits.

Gatineau County

René Béland, during the last half of the summer, completed mapping the southern part of the Wakefield area, most of which he had covered in 1951. In 1954, he mapped the ground in Hull and Eardley townships, between latitudes 45°30'-45°35' and longitudes 75°45'-76°00'.

Water Supply Problems

Roland DeBlois, conducting hydrological investigations, continued to render greatly appreciated services to many municipalities, villages and other operators of aqueducts who were in difficulties and who requested aid. In all, he investigated 39 such places served by public water-supply systems, in the counties of Labelle, Papineau, Deux-Montagnes, Terrebonne, Vaudreuil, Chambly, Verchères, Yamaska, Joliette, Berthier, L'Assomption, Nicolet, Champlain, Maskinongé, St. Maurice, Portneuf, Quebec, Compton, Frontenac, Beauce, Montmagny, Kamouraska, Témiscouata, and Gaspé-Nord.

Other Work

Dr. McGerrigle and Mr. DeBlois, in addition to their principal tasks, as mentioned above, examined the many samples of rock obtained from various deep-drilling operations in the search for oil and gas in Gaspé peninsula and the St. Lawrence Lowlands. Visits were made also to occurrences of oil or gas that, from time to time, were reported from different parts of the province.

F.F. Osborne served in a supervisory and advisory capacity for geological investigations in the Appalachian region south and northeast of Quebec City and in the Laurentian or Grenville section of the province.

M.M. Ritchie technically reviewed geological reports and maps for publication and assisted the Chief of the Branch in his administrative duties.

Members of the geological staff of this Branch represented the Department of Mines and contributed papers at meetings of geological, engineering, prospecting and other scientific organizations that were held during the year. Recognition of the geological work done by the Department in Quebec was made by the Geological Association of Canada when it named the chief of this Branch, I.W. Jones, as its President for the year 1954-1955.

EQUIPMENT DIVISION

In August 1954, C.R. Staniforth took charge of the equipment division, the duties of which are as follows:-

1.- Control of all vehicles of the Department of Mines;
2.- Control and maintenance of instruments and camping equipment for geological and engineering field parties.

In the course of the fiscal year 1954-55, this division opened an office in Montreal, and a duplicate control system of perpetual inventory of the stock was installed.

The Department of Mines owns thirty-three vehicles, which it maintains in good condition, and has a fleet of outboard motors and canoes.

Twenty-five large and forty-four small parties (geological and engineering) were sent into the field for the Geological Surveys, Mineral Deposits, and Civil Engineering Branches of the Department.

MINERAL DEPOSITS BRANCH

Bertrand-T. Denis, chief of this Branch, reports as follows on the activities during the past fiscal year:-

The technical officers of this Branch make geological investigations of mineral deposits, mining properties and mineralized

areas with a view to furthering the development of the mineral industry within the province. Technical advice is also given to prospectors and to organizations engaged in exploration and development.

During the course of the summer and early autumn, 12 parties were in the field, and, in addition, the resident geologists stationed at Rouyn, Val d'Or and Quebec made examinations of mining properties under development in each of their respective fields. The field personnel included 16 geologists, 4 mining engineers, 13 student assistants and 13 labourers or other help.

Gilles Allard continued the detailed geological mapping of a part of the southwest quarter of McKenzie township. This project is part of the programme of detailed geological mapping under way in the Chibougamau area since 1951.

P.-E. Bourret, senior mining engineer in charge of industrial minerals technology, assisted by Léo Lachance, mining engineer, examined 73 properties in various stages of development from mineral prospects to producing mines. These properties are situated mainly in the southwestern portion of the Laurentian plateau, in the St. Lawrence and Ottawa valleys, and in the regions of Beauce and the Gaspé peninsula. Most of these examinations consisted of brief inspections in the course of which Mr. Bourret gave guidance and technical advice to the property owners regarding the development and mining of their deposits, the milling operations and the marketing of their products. In addition to the usual industrial minerals, prospectors of this region have carried out development work on several deposits of radio-active minerals.

J.J. Brummer continued the detailed geological mapping of the northwest quarter of Holland township, Gaspé peninsula, where Gaspé Copper Mines is well advanced in the exploitation of a very large copper deposit. The survey includes a detailed study of the ore body itself.

F.W. Cornwall continued the study of wall-rock alterations in the vicinity of sulphide deposits in the Grenville and Temiscamian geological sub-province. This is a continuation of a programme of research into geochemical prospecting methods with a view to establishing the possibility of the application of these methods to the search for metallic mineral deposits. The lead-zinc deposits at the Anacon mine in Portneuf county and the New Calumet mine in Ile du Grand Calumet township, the Barvue mine in Barraute township, and the Golden Manitou mine in Bourlamaque township were also studied.

Jean Duqas, geologist attached to the office of the resident geologist at Rouyn, completed the detailed geological study of the north half of Cadillac township, in the Rouyn-Val d'Or mining belt of Western Quebec. He has now started a similar study of the southeast quarter of Montbray township.

Henri Girard made a detailed survey of the St-Blaise and St-Valentin peat bogs in St-Jean county. This study includes examination of the drainage and sample investigations of the quality of the peat. In addition, he continued to keep posted concerning developments at the various peat bogs which are in operation in the province.

P.-E. Grenier, resident geologist for the district south of the St. Lawrence, visited 30 mining properties in his district and started the statistical work connected with the geological and geophysical operations which were carried out by the various companies in the townships of Rolette, Roux, Talon, Panet, and Bellechasse.

W.N. Ingham, resident geologist at Val d'Or, visited 51 mining properties in the development or exploitation stage in his district. He also made 10 visits to mining properties under exploration for radio-active minerals in the counties of Gatineau and Pontiac. This geologist also completed, at a scale of one inch to a 1,000 feet, the compilation of the geology of the southwest quarter of Pascalis township and also that of the south half of Tiblemont township. In collaboration with Maurice Latulippe, geologist, he prepared a compilation of the geology of the region under exploration for lithium in Lacorne township and he delivered a paper at the annual meeting of the Prospectors and Developers Association.

R.E. Jones executed a detailed geological survey of the northwest quarter of Fiedmont township, east of Lacorne township. Several mining exploration companies are carrying out investigations in that region for the discovery of lithium.

Maurice Latulippe, geologist attached to the office of the resident geologist in Val d'Or, completed the geological surveying, at the scale of one inch to a thousand feet, of the southern half of Tiblemont township.

O.-D. Maurice, geologist specialized in building materials, kept in contact with the quarry operators and visited 41 quarries and ten exploitation establishments with a view to assisting the operators. In addition, he visited the claims of five other prospectors who had requested advice in connection with the opening of new quarries.

D.M. Shaw completed the detailed geological survey, at a scale of one inch to a 1,000 feet, of the north half of Grand Calumet Island, where several mining exploration companies are carrying out exploration work on deposits of radio-active minerals.

J.R. Smith continued the detailed geological mapping of the southeast quarter of McKenzie township in the electoral district of Abitibi-East. The project is part of the detailed geological mapping programme started in 1951 in the region of Chibougamau.

The Mineral Deposits Branch is also responsible for the acceptance of reports, maps and diamond-drill logs submitted in support of application for credit towards assessment work requirements through geophysical or detailed geological surveys and diamond drilling. During the year, 64 reports and geological maps were examined along with 120 geophysical surveys made and 128 diamond-drill logs. In addition, 138 reports or prospectuses were studied at the request of the Registrar, Quebec Securities Act. Finally, three engineers' reports submitted in support of application for mining concessions were studied.

To awaken interest in prospecting and to initiate those interested in obtaining an elementary knowledge of geology and mineralogy, classes were organized in nine different centres. In each centre, nine courses were given, of which four practical meetings were held in the afternoons. The courses were given by O.-D. Maurice in four places, by P.-E. Grenier in three, and by Léo Lachance in two.

The following list gives the average attendance in each of the municipalities visited:

St. Michel-des-Saints	14	Trois-Pistoles	27
Notre-Dame-du-Laus	16	Mont-Joli	26
Rawdon	6	Fort Coulonge	15
Hull	15	Bryson	34
Weedon	16		

The geologists of the branch are also called upon from time to time to prepare papers or lectures to stimulate interest in prospecting and in the mineral resources of the province. In the course of the year eight such lectures were given to technical societies or study groups.

The search for new mineral deposits throughout the province was pursued by prospectors and companies engaged in mining exploration. Exploration was particularly active in New Quebec, where,

besides the iron ore deposits, was reported the presence of sulphur, copper and zinc deposits. In Saguenay county and in Mistassini territory important exploration programmes for iron ore were under way. In the region of Oka, north of Montreal, important mining exploration work is being carried out, with the interested parties claiming success in connection with the discovery of very large columbium deposits. Exploration work and metallurgical research with a view to exploitation and assessment of the deposits are also being continued.

As usual a continued activity was reported from the regions of Chibougamau and Western Quebec, as well as the Gaspé and the Sherbrooke sections of the Appalachian region.

DIVISION OF TECHNICAL INFORMATION AND DISTRIBUTION OF PUBLICATIONS

The Division of Technical Information and Distribution of Publications is charged with collecting all technical information concerning the mineral resources of the Province of Quebec and of answering enquiries and requests that may be received concerning pertinent information.

Jean-Paul Drolet, mining engineer, submits the following report on the work of the Division during the fiscal year ending March 31st, 1955.

A.- Number of requests for information concerning mining activities and various mineral substances, approximately	900
B.- Various enquiries and correspondence concerning mining companies, technology and mineral collections	1,028
C.- Requests for collections of minerals and samples.	1,141
D.- Verbal and written requests for publications of the Department of Mines	7,864

During the fiscal year ending March 31st, 1955, the distribution staff, under the direction of Mr. Noé Lamontagne, sent out 54,478 copies of the Department of Mines publications in answer to requests of all kinds concerning geology and the mineral resources of the province, as well as 10,754 other publications from our regular mailing lists.

This Division carried out the work of compilation and classifying numerous reports and plans sent in by the inspectors of

mines and outside technicians, as well as technological pamphlets concerning the mining industry and mining companies. It has also established a system of classification, by subject and township, of all geological reports and plans received from engineers and geologists of the Department of Mines, as well as from outside sources.

Moreover, this Division also collects, compiles, classifies and prepares an index of all items of interest relating to the mining industry and mining companies clipped from technical reviews and newspapers. Photographs presenting a certain interest to geology and mining are also collected and classified.

The Division prepares numerous economic studies relative to the main projects directly associated with or bearing on the development of the mining industry in the Province of Quebec.

In addition to the functions mentioned above, this Division prepares the notices and advertising matter and articles for newspapers, technical reviews and periodicals, by which the Department of Mines gives notice of the issuance of new reports, maps, and works on the geology, mineral deposits, and the mining industry of the province. These publications are the result of field-work by geologists, engineers and chemists of the Department of Mines. A list of these publications may be obtained on request addressed to the Department of Mines, Quebec, or to one of its agencies situated elsewhere within the province.

LABORATORIES BRANCH

The Laboratories Branch comprises the following sections:

I.- laboratories for mineralogical and metallurgical research; II.- laboratories for analyses and assays of the Department of Mines established at Quebec and Montreal; III.- the sampling and ore dressing plants at Val d'Or and Thetford Mines; IV.- University lectures in prospecting; V.- the Department of Mines' museum and the displays at exhibitions.

The Director of this Branch is Maurice Archambault and the Assistant-Director is P.-E. Pelletier. G.S. Grant is the manager of the Sampling and Ore Dressing Plant at Val d'Or, while Henri Boileau is Chief of the Chemical Analyses Laboratories, and Jean Girault is in charge of the Mineralogy and Petrography Laboratories. Fernand Claisse is Chief of the Physics Laboratories.

I.- Research Laboratories

During the course of the year under review, mineralogical and metallurgical research dealt with: a) technical assistance to prospecting; b) study of the chemical utilization of peat; c) expansion of the commercial value of our asbestos; d) the chemical utilization of titanium ores; e) the study of certain physical properties of metallic titanium and titaniferous slags; f) the production of organic by-products of titanium; g) the processing of copper, iron, titanium, lithium, uranium, thorium, and beryllium ores.

The following progress is reported relative to those projects under way:

Project No. 8: Claude Frémont continued his research work on the construction of a micro-magnetometer small enough to be lowered into diamond drill holes. Certain difficulties in the eliminating of undesirable harmonic waves have delayed the final assembly of the apparatus.

Project No. 54: J.U. MacEwan completed his research work on the processing in electric furnaces of copper mattes into blister copper containing rare metals and other metals. The process applies not only to ores and concentrates but also to scrap products of the metallurgical industry.

Project No. 73: Fernand Claisse made a study of the thermomagnetic properties of titanium slags from the Sorel, Que., mill. This work was done in collaboration with the staff of the Research Laboratories of Quebec Iron and Titanium Corporation.

Projects No. 78 and No. 94: L.-P. Bonneau continued his research work relative to cleaning of asbestos fibers with the help of experimental cyclones, before bagging the product. The separation process has proved promising and research at semi-industrial level is being carried out to determine the best conditions for the design of the apparatus. The registration of a patent is also being considered.

Project No. 80: Fernand Claisse has demonstrated that the diffusion of oxygen into metallic titanium under heat conditions and in an electric field causes certain thermal reactions peculiar to metallic titanium.

Projects No. 81 and No. 91: J. Risi and C.-E. Brunette continued the systematic inventory of a large number of samples of peat extracted from the peat bogs of l'Assomption, Holton, and Napierville. It was again established that it is possible to extract from

peats bitumen, alcohols, and numerous by-products of humic acids which could be useful to industry.

Projects No. 82 and No. 99: R. Brais continued his studies of the chemical utilization of titanium ores and other titaniferous substances. Various extraction processes were studied to determine their practical and economic value. The organic chemistry of titanium was also examined to produce synthetically certain compounds of high commercial value.

Project No. 98: J.U. MacEwan started research work on the production of lithium salts from spodumene concentrates. The results so far are very encouraging.

Project No. 104: Fernand Claisse and Jean Girault studied the causes of the magnetic changes in ilmenite when heat-treated. By coordination of microscopic, radiocrystallographical and thermogravimetrical studies, it was found that the phenomenon could be attributed to the formation of fine needles of magnetite during the heat process.

The following projects relative to the processing of various ores was the subject of special study by B.J. Walsh, Jean Girault, J.-P. Bolduc and D. Karpoff.

Research on the Concentration of Ores

Project No.	Ore	Supplier
72	Lithium	Quebec Lithium Corporation
76	Iron	Consolidated Fenimore Iron Mines Ltd.
87	Iron	Cyrus S. Eaton, Jr. International Iron Ore Ltd.
88	Titanium	Laurentian Titanium Mines Ltd.
89	Uranium	Yates Uranium Mines Inc.
92	Iron and titanium	Canadian Javeline Ltd.
93	Uranium	Quebec Nickel Corporation
95	Lithium	Valor Lithium Mines Ltd.
96	Uranium	Gatineau Uranium Mines Ltd.
97	Beryllium	Massberyl Company Ltd
101	Lithium	Quebec Lithium Corporation

The study of Project No. 101 included pilot-plant experiments on some fifty tons of lithium ore to investigate the best method of treatment in view of establishing a flotation mill of a daily capacity of 800 tons.

II.- Laboratories for Analyses and Assays

In the course of the fiscal year the laboratories of analyses and assays (Thetford Mines plant included) received 14,357 samples on which were performed 67,919 analyses and examinations. These figures comprise quantitative chemical and flame photometric analyses, microscopic, spectrographic, X-ray determinations (diffraction and fluorescence) and radioactivity measurements.

These were distributed as shown in the following table:

Table VI.- Summary of Analytical Work Done in Laboratories

	LABORATORIES			Totals
	Quebec	Montreal	Thetford Mines	
Samples received	11,921	2,005	431	14,357
Quantitative analyses	22,375	3,288	2,119	27,782
Qualitative analyses	21,568	---	---	21,568
Spectrographic examinations	9,336	---	---	9,336
X-ray examinations	6,984	---	---	6,984
Radioactivity	918	---	---	918
Research analyses	1,331	---	---	1,331
Total	62,512	3,288	2,119	67,919

The work of the Montreal laboratory consists of qualitative and quantitative chemical analyses for prospectors.

The Quebec Laboratories:

The principal laboratories of the Department are in Quebec and comprise 1) a Division of Mineralogy and Petrography; 2) a Division of Spectrography, Radiocrystallography and Radioactivity; 3) a Division of Chemistry; 4) a Division of Metallurgy.

Mineralogy and Petrography Laboratory

The year under review and ending March 31st, 1955, was marked by a considerable increase in the number of samples received, since that number reached 11,921, as compared with 9,023 for the preceding year. The examination of these samples required 21,568 mineralogical determinations. To this work is added the detailed microscopic

examination of 94 thin rock sections and 31 polished sections of metallic ores.

The mineralogists also have charge of dispatching to the appropriate laboratories the various samples and specimens received for analysis according to their nature and the work to be done on them. They also answered verbally, or in writing, numerous requests for information regarding the nature and economic possibilities of mineral samples and specimens submitted to them, as well as having received the visits from several hundred persons to whom they gave verbal answers.

The Mineralogy and Petrography Laboratory also looks after the preparation of collections of minerals and rocks used in schools and by prospectors. These collections are greatly appreciated.

Spectrography, Radiocrystallography and Radioactivity Laboratory

In the course of the year under review, the personnel of this laboratory effected 17,246 analyses distributed as follows:

Spectrographic analyses	9,336
Radiocrystallographic analyses	6,984
Radioactivity determinations	918
Quantitative analyses of gases in metals	8

In the above radiocrystallographic analyses are included 188 determinations of free silica on behalf of the Department of Health and 468 analyses for various research projects.

The X-ray fluorescence analysis apparatus acquired towards the end of last year contributed greatly to improve the rapidity in the service of analyses made, particularly as regards analyses of columbium, tantalum, uranium, thorium, and zinc.

A survey made in our laboratories has revealed that the X-ray spectrograph method of analysis is superior to the chemical methods for the quantitative determination of columbium in rocks.

Chemical Laboratory

The fiscal year 1954-1955 shows a considerable increase in the number of analyses credited to the personnel of the Division of Chemistry. During the course of the year were made 5,142 analyses of precious metals, 17,233 current analyses to which must be added 1,331 research analyses. All analyses were made in duplicate.

Among special analyses must be mentioned 2 complete geochemical analyses of rocks and 247 complete commercial analyses to assess better the geology of the province.

A section of fluorimetry was added to the Division of Chemical analyses which already comprises a laboratory for geochemical analyses and that of oils or petroleums, a fire-assay laboratory, a laboratory for general assays, and a laboratory of flame photometry. The acquisition of a Galvanek-Morrison fluorimeter now makes it possible to determine with precision the tenor of uranium, even when inferior to O.Ol per cent.

All these various laboratories are staffed with graduate chemists.

Metallurgical Laboratory

The metallurgical laboratory collaborated for the study of several research projects in the field of physical metallurgy. In fact, Projects No. 73, No. 80, and No. 104, mentioned before in this report, are exclusively problems of metallurgical research done in this laboratory.

III.- Sampling and Ore Dressing Plants

Val d'Or Plant:

This plant, situated near Val d'Or, in the electoral district of Abitibi-East, received the following shipments of ore for sampling and processing.

Table VII.- Shipments of Ores

For Sampling:

Shipper	Type of Ore	Lots	Weight (pounds)
Louis Abel, Val d'Or	Iron	3	65
Ex-Mother Lode Mines Ltd.	Iron	4	152
Valor Lithium Mines Ltd.	Lithium and beryllium	1	1,300
Nipiron Mines Ltd.	Molybdenum	4	6,090
Sigma Mines (Quebec) Ltd.	Gold	5	4,301
Belpat Molybdenum Mines Ltd.	Molybdenum	1	2,760
Quebec Copper Corporation	Gold	1	1,484
The New Jersey Zinc Exploration Co. Ltd	Gold	1	69,995
Total		20	86,147

Table VII.- Shipments of Ores (Cont'd)

For Processing:

Shipper	Type of Ore	Lots	Weight (pounds)
East Malartic Mines Ltd.	Talcum	1	645,400
Duvan Copper Mines Ltd.	Copper	1	5,115
Dun Raven Mines Ltd.	Graphite	1	104,800
Total		3	755,315

The plant also received for crushing and screening three shipments of ore, weighing 654,400 pounds, from Quebec Lithium Corporation and one lot of 107,450 from l'Hôpital St-Sauveur of Val d'Or.

In short, more than one million pounds of ore was processed at the Val d'Or plant during the course of the last twelve months.

Thetford Mines Plant:

This laboratory, situated in the heart of the asbestos district, is in reality a small-scale mill specially adapted to process asbestos ores and classify asbestos fibres. The collaboration which exists between the Laboratory and the main asbestos producers shows the necessity and the value of the establishment. For the first year of full time operations, this plant did a remarkable job, judging from the number of shipments of ore and the amount of fibres received for study.

Table VIII.- Shipments Received for Processing

Shipper	Lots	Weight (pounds)
Asbestos Corporation Ltd.	66	409
Bell Asbestos Mines Ltd.	2	6
Canadian Explorers Ltd.	128	268
Canadian Johns-Manville Co.	2	9
Derogan Asbestos Corporation	4	43
Eastern Asbestos Co. Ltd.	1	255
N.R. Fisher, Montreal	1	23
Flintkote Mines Ltd.	6	30
Golden Age Mines Ltd.	32	21,815
Albert Jacques, Ascot Corner	2	120
Johnson's Asbestos Co.	2	6
Lake Asbestos of Quebec Ltd.	20	2,191
Johnson Co. Ltd.	4	15
J.-C. Rene Martin, Danville	4	6
National Gypsum (Canada) Ltd.	51	2,953
Nicolet Asbestos Mines Ltd.	24	167
Albert Paradis, Thetford Mines	1	4
Quebec Asbestos Corporation	13	99
Quebec Asbestos Mining Association	61	160
St-Cyr Asbestos Mines Ltd.	6	449
Alphonse Savoie, Disraeli	1	105
Total	431	29,133

In the above mentioned total of 29,133 pounds are included 1,419 pounds of fibres submitted for standard classification which required 2,119 tests.

IV.- Lectures on Mineral Prospection Given in Universities

Modern industry employs each year an ever increasing number of minerals and metals and in more and more considerable quantities. Known deposits become exhausted and deposits easy of access become scarcer. This is to say that the era of former rule-of-thumb prospecting methods is over and that to be successful the modern prospector must have, among other qualifications, a workable knowledge of metallogenics, geology, mineralogy and chemistry. Conscious of this evolution, the Department of Mines, with the kind collaboration of the Faculty of Science of Laval University and of l'Ecole Polytechnique of Montreal, organizes, each year, lectures in prospecting of a duration of five weeks. Judging from the popularity of these courses and the quality of the prospectors formed, one can see that prospecting has ceased to be a hobby or a gamble and has become a serious trade with its own special methods.

These courses were given at the Department of Geology at the Faculty of Science at Laval University, where 32 students followed the complete programme of studies. (L'Ecole Polytechnique of Montreal also contributed to these courses, but they started only a few days before the end of the fiscal year.)

Table IX.- Lectures on Mineral Prospection Given at Universities, 1947-1955

Fiscal Year	Number of Students		
	Quebec	Montreal	Total
1947	28	-	28
1948	17	21	38
1949	9	15	24
1950	-	23	23
1951	29	28	57
1952	23	17	40
1953	-	27	27
1954	29	20	49
1955	32	-	32
Total	167	151	318

V.- Museum and Exhibitions

During the course of the year, the Department of Mines Museum acquired a specimen of radioactive metamorphic limestone which came from Yates Uranium Mines Inc., and which was added to the collection of minerals shown at the Department's Museum.

Exhibitions were organized in the following localities: Pointe-aux-Trembles, Trois-Rivières, Sherbrooke, Cookshire, Rouyn, Val d'Or, and Baie Comeau. The theme for these exhibitions for the year 1954 was "A Tribute to Our Asbestos Mines".

DRAUGHTING AND CARTOGRAPHY BRANCH

Léon Valois, P. Eng., is chief of this Branch and Armand Blanchette is assistant-chief. The Branch also employs nine draughtsmen and a stenographer, viz., a staff of twelve.

The Draughting and Cartography Branch supplies the documents requested by the geological missions of the Department, documents consisting mostly of aerial photos and of compilations, at the desired scale, of base maps drawn from topographic surveys and aerial photos. In some cases, regions are photographed and mapped so as to supply an adequate basis of operation for these geological parties.

The Branch maintains up to date two sets of township maps on tracing linen; on one of these are drawn the outlines of all mining claims and on the other are shown the boundaries of lands held by mining companies. The first series, which shows the claims staked out comprises 690 tracings on which are traced the boundaries of the 32,702 new claims recorded during the year; the second series comprises 375 tracings. From all these tracings, 13,299 blue prints were struck off during the year to satisfy requests from the interested public.

The following geological maps were prepared during the year by the Branch, which also supervised their printing.

Final Maps (coloured)

a) Completed

No. 930 - Part of Lemieux Township
No. 1000 - Gaspé Peninsula
No. 1026 - Tourelle Area
No. 1027 - Courcelette Area
No. 1028 - Branssat-Daine Area
No. 1050 - Index of geological maps
No. 1074 - Mineral Map (1" = 125 mi.)

b) In Press

No. 847 - St. John's Area
No. 848 - Beloeil Area
No. 1060 - Mineral Map (1" = 32 mi.)

c) In Preparation

No. 921 - Trente-et-un-milles Lake Area
No. 922 - McGill Area
No. 924 - Chertsey Area
No. 925 - Rawdon Area
No. 1073 - Coaticook-Malvina Area

Preliminary Maps

a) Completed

No. 1011 - Lanoraie Peat Bog (reprint)
No. 1013 - Farnham Peat Bog (reprint)
No. 1017 - Rivière-du-Loup Peat Bog (reprint)
No. 1030 - Thetford Mines Area
No. 1031 - Gérido Lake Area
No. 1034 - Onslow-Masham Area
No. 1035 - Rosaire-St-Pamphile Area
No. 1036 - Charpeney-Coopman Area
No. 1037 - Ste-Justine Area
No. 1038 - Wakefield Area
No. 1039 - Dollier-Charron Area
No. 1040 - La Tuque Area
No. 1051 - Lemieux Township, analyses of salt and of water
No. 1058 - Waco Lake Area

b) In Press

No. 1067 - Ste-Perpétue Area
No. 1069 - Ducharme-Bouteroue Area

c) In Preparation

No. 1066 - Bristol Area
No. 1068 - Gérido Lake Area (East part)
No. 1070 - Thévenet Lake Area
No. 1071 - Gradis-Machault Area
No. 1072 - Bailloquet Area
No. 1075 - St-Georges-St-Zacharie Area

Our draughtsmen traced on linen eight other geological plans; sixteen plans of furniture, machines, graphs, etc., and fourteen figures for illustrations of final reports published by the Department.

Other works closely related to drawings, such as the mounting of maps on linen, various compilations, and classifications, are also handled by the Draughting and Cartography Branch.

The printing section has produced 11,748 copies of documents.

The official inauguration in Montreal of a new claims staking bureau has given the Cartography Branch the following additional work: compilation and mounting of a mural map at the scale of one inch equals three miles; the preparation of two index maps of geological maps; and one compilation of maps showing the 80 cities and towns of the Montreal agency.

Table X.- Comparative Table for the Years Ending March 31st, 1952, 1953, 1954, and 1955

	1952	1953	1954	1955
Personnel	13	12	11	12
Tracings of mining claims	514	542	626	690
New claims	22,807	21,912	23,667	32,702
Tracings of mining companies	210	210	219	375
Copies distributed	10,845	9,923	10,405	13,299
Final maps (coloured) ...	7	7	14	7
Preliminary maps	24	13	8	14
Geological plans	29	42	39	8
Various plans	34	34	35	16
Figures	59	59	13	14

CIVIL ENGINEERING BRANCH

L.-A. St-Pierre, P. Eng., is chief of this branch which consists of two distinct divisions: a) Division of Mine Roads, and b) Division of Mining Villages.

a.- Division of Mine Roads

The ever increasing exploitation of the mines of our province and the opening of new deposits require the construction, improvement and maintenance of roads of access. This work is handled by the Division of Mine Roads.

During the fiscal year 1954-55, the Division of Mine Roads built 13.88 miles of new roads, which brings to 1,458.78 miles the total length of roads built by the Department of Mines. The total cost, during the course of the year under review, for the construction, improvement or completion of mine roads and the construction of bridges amounted to $2,852,845.64, bringing the grand total for such expenditures by the Department to $23,616,454.71 since 1925.

Table XI.- Summary of Work and Expenditures by Division of Mine Roads, Fiscal Years 1952-53 to 1954-55

Description	1952-53	1953-54	1954-55
Length of new roads built	57.15 miles	30.26 miles	13.88 miles
Length of roads improved or completed	51.02 miles	132.23 miles	41.60 miles
Number of bridges built..	5	8	11
Length of roads maintenanced	186 miles	273 miles	279 miles
Total amount spent for the construction, improvement and completion of roads	$2,259,226.77	$4,706,656.37	$2,852,845.64
Total amount spent for maintenance	$669,932.40	$124,988.22	$149,451.86
Total amount spent during the year	$2,929,159.17	$4,831,644.59	$3,002,297.50

Details for the year 1954-55:

New roads	$ 172,000.32
Improvements - Completion	$1,692,838.82
Bridges	$ 811,867.73
Contributions of the Department to work executed by the Department of Roads or by mining companies	$ 176,138.77
Total	$2,852,845.64

New mine roads built during the fiscal year 1954-55:

Electoral District	Roads
Abitibi-East	Quebec Lithium mine road
" "	Valor mine road
Mégantic	Normandie mine road
Shefford	South Stukely Marble and Terrazzo mine road

Matane	St-Ulric, Marl Lake mine road
Gaspé-North	Lac Bois Sec road, Cap-Chat township
Gatineau	Mica deposit road

Bridges built during 1954-55:

Electoral District	Bridges	Span
Abitibi-East	Bridge on Bell river (Rapide des Cèdres)	303 feet
" "	Bridge on Queylus Bay	60 "
" "	Bridge on Chibougamau river	75 "
" "	Bridge on Chibougamau river (Opémiska)	200 "
" "	Bridge on Dufresne river	35 "
Roberval	Bridge on Grand Portage river	50 "
"	Bridge on Eustache river	30 "
"	Bridge on Batarde river	39 "
Gaspé North	Bridge on Madeleine river	100 "
" "	Bridge on Mercier river	33 "
" "	Bridge on Anse Pleureuse river	43 "

Roads improved and completed during 1954-55:

Electoral District	Roads
Abitibi-East	Bachelor lake road
" "	Chibougamau Explorers mine road
Gaspé-North	Gaspé Copper to l'Anse Pleureuse road
" "	Gaspé to Murdochville, widening of a 4-mile section
Roberval	Dufferin township to the Park gate, Chibougamau road
Rouyn-Noranda	Eldrich mine road
Portneuf	Marvel Granite Reg'd. quarry road

Roads maintenanced in 1954-55:

During the fiscal year 1954-55 the Department of Mines maintained open 279 miles of mine roads at a cost of $149,451.86.

Electoral District	Roads
Abitibi-East and Roberval	Chibougamau road
Abitibi-East	Bachelor lake road
Rouyn-Noranda	Eldrich mine road
Gaspé-North	York river road
" "	Murdochville to Madeleine river road
Bonaventure	Grande Cascapédia river road
Matane	Levasseur lake road

Drainage of Peat Bogs

Pursuant to the provisions of the Quebec Mining Act, the Civil Engineering Branch gave grants totalling $15,000.00 to certain operators of peat bogs to assist them financially in the drainage of their property. A total length of 183,647 feet of drainage ditches was opened in the electoral districts of Matane, Rimouski, Rivière-du-Loup and Chicoutimi.

b) Division of Mining Villages

The following developments in mining villages took place during the course of the year under review:

Bourlamaque

Development in this town was not considerable. To be noted among new constructions was a new city hall. Population: 3,010.

Val d'Or

This town develops continuously. New constructions amounted to $180,000. During the course of 1954-55, two churches were built as well as four commercial establishments and 19 houses. Public works in the municipality were also considerable and included the paving of streets and the building of 7,184 feet of sidewalks.

Cadillac

There was no important development in this municipality.

Malartic

This town continues to develop. Construction was relatively active. The construction of a new Post Office building, which cost $250,000, was completed. The population has now reached 7,350.

Rouyn

The population of this town increased by 1,043 during the course of the fiscal year 1954-55 bringing the total to 15,670. There was also great activity in construction. To be mentioned in particular were the Court House, the City Hall, a 16-classroom school, a Federal Government administration building and a branch office of the Canadian Bank of Commerce.

Noranda

This town also develops rapidly. The municipality has completed the paving of 3.5 miles of streets. New constructions include an 8-classroom Protestant school, and a Dominion Oxygen Company branch office. Under construction is a chain store building costing $225,000. The population has reached 10,300.

Chibougamau

This mining village continues to progress. Its population increases from year to year and at present there are 2,000 persons living there. With the increase in population, the town develops specially in the field of domestic construction. There are 97 new houses of which 75 are for the employees of Campbell Chibougamau Mine Company. These new constructions required the expansion of the waterworks system and everything indicates a further continued development of this municipality.

Murdochville

A new parish, known as St-Paul, was erected in this municipality which develops regularly. Reverend C. Allard, Parish Priest, has had a hall built which serves as a church for the time being. Other important constructions totalling $350,000 include: a theatre, a commercial building, and two apartment buildings. Population: 2,224.

Schefferville

The organization of this municipality started only during the fiscal year 1954-55 but an extraordinary development has already manifested itself. Iron Ore Co. of Canada has built office buildings and houses to harbour its employees. To be mentioned also is the construction of a modern 7-classroom school. A large number of commercial and residential buildings is expected for next year.

DIVISION OF MINERAL STATISTICS

This Division, under the direction of C.-O. Beaudet, is responsible for the compilation of monthly and annual statistics relative to the mining industry of the Province of Quebec and for answering inquiries concerning them.

These statistics are compiled from reports which are received from mine and quarry operators on the appropriate forms that are supplied them upon request.

This Division must, therefore, keep up to date a

list of these companies and individuals who exploit mines or quarries in the province, send them the questionnaires in due time and see to it that these are completed and returned. It then compiles the information contained in the reports received.

Part of the statistics collected by this Division are given in other sections of this report as well as in another publication of the Department entitled "The Mining Industry of the Province of Quebec", and in the monthly and other publications released regularly by the Department. Other information compiled serves the personnel of the Department and the public when it is requested.

During the calendar year 1954 this Division completed or started five surveys, two of which are not fully terminated.

The following is a summary of the statistics tabulated during the course of the year under review:

	Number of Returns Received
Reports on the mineral production and mining operations:	
Annual returns	2,926
Monthly returns	686
Annual reports on the timber used in mines....	80
Annual reports on the capital received by mining companies	731
Annual reports on expenditures by mining operators for the welfare of their employees and their families	40
Total number of reports received	4,463

The 2,926 annual reports relative to mineral production and other operations include 86 obtained from contractors and showing the quantities of stone, gravel and sand they used and the source of these materials. The 2,840 other reports were supplied by operators of mines or quarries. Of this number, 1,421 came from establishments in production or which have at least shipped some product and 276 from enterprises not in operation which have executed only exploration or development work during the course of the year. The 1,143 other reports consist in statements dealing with properties which were completely inactive during the whole year.

The reports concerning the capital received show that

the mining companies operating in the Province of Quebec received during the course of 1954 a total net amount of $55,700,000 from the sale of shares, bonds and other titles issued and from long term loans. A similar survey made for the year 1953 showed a total of $44,800,000.

The following list gives the names of the mining companies organized during 1954, their head office, the date of their incorporation, and their capital. The number of these new companies is 112, of which 91 hold Quebec charters; 15, Ontario charters; and 6, Federal charters. The total is noticeably higher than that for 1953 when it was only 91, of which 82 held Quebec charters; 6, charters from Ontario; and 3, from the Federal Government.

Mining Companies Incorporated
in the Province of Quebec during 1954

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Abeta Mining Corporation	Montreal	Nov. 5	5,000,000	$ 1
Acadian Mining and Smelting Corporation	Montreal	March 24	5,000,000	$ 1
Almega (Quebec) Ltd.	Montreal	Feb. 23	100,000	$ 1
Alouette Uranium and Copper Mines Inc.	Montreal	Oct. 26	4,000,000	$ 1
Altamont Mines Ltd.	Montreal	Feb. 9	3,000,000	$ 1
American Lithium Company Ltd..	Montreal	Aug. 24	3,000,000	$ 1
Amos Lithium Corporation	Montreal	Dec. 28	4,000,000	$ 1
Back River Quarries Ltd.	L'Abord à Plouffe	April 22	2,000	$ 10
			(a) 800	$100
Barry Explorations Limited ...	Montreal	Nov. 16	200	$100
			3,000	$ 10
Beauharnois Oil and Gas Co. Ltd.	Montreal	June 30	200,000	$ 1
Beaumont Mining Corporation Ltd.	Montreal	Jan. 23	4,000,000	$ 1
Big Town Copper Mines Ltd. ...	Montreal	June 23	3,500,000	$ 1
Bonaventure Uranium Mines Ltd.	Montreal	May 11	5,000,000	$ 1
Bonnyville Oil and Refining Corporation	Montreal	Nov. 26	5,000,000	$ 1
Calcaire et Marne Limitée	St-Casimir	Dec. 16	400	$100
Calumet Contact Uranium Mines Ltd.	Montreal	Feb. 18	5,000,000	$ 1
Canadian Quarries Company Ltd. 1954	St-Michel	Oct. 23	2,000	$ 10

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Canadian Phlogopite Mica Co., Ltd.	Montreal	Nov. 5	800	$ 50
Cardinal Uranium and Copper Mines Inc.	Montreal	Dec. 9	4,000,000	$ 1
Carrières et Excavations Bonneau Ltée (Les	Mackayville	Dec. 17	50,000	$100
			(a)25,000	$ 10
Cavendish Uranium Mines Ltd..	Montreal	Feb. 27	3,000,000	$ 1
Chateauguay Oil and Gas Co. Ltd.	Montreal	Oct. 30	6,000,000	$ 1
Chaux Agricole Inc.	St-Hyacinthe	Nov. 29	50,000	$ 1
			(a)25,000	$ 10
Cie d'Huile Chambord Ltée (La (The Chambord Oil Co. Ltd.)	Quebec	June 30	3,000,000	$ 1
Clearside Explorations Ltd...	Montreal	Nov. 16	3,000,000	$ 1
Consolidated Uranium Corporation	Montreal	April 26	2,000,000	$ 1
Dominion Uranium Corporation.	Montreal	Aug. 2	10,000,000	$ 1
Dumont Nickel Corporation ...	Val d'Or	Sept. 22	6,000,000	$ 1
Dun Raven Mines Limited	Montreal	May 28	5,000,000	$ 1
Eastern Canada Gas and Oil Ltd.	Montreal	Feb. 20	5,000,000	$ 1
Englewood-Chibougamau Mines Ltd.	Chibougamau	Sept. 16	3,000,000	$ 1
Fort Coulonge Mining Corporation	Montreal	Dec. 29	5,000,000	$ 1
Giant Uranium Mines Ltd.	Montreal	April 5	3,500,000	$ 1
Granit Diamant Rouge Incorporée (Le	Ville-Marie	July 15	600	$100
Great Volcano Mines Ltd.	Roberval	Dec. 16	5,000,000	$ 1
Green Marble Quarry Co. Ltd..	Philipsburg	Feb. 19	10,000	$ 1
			(a) 1,000	$100
Huddersfield Uranium and Minerals Ltd.	Montreal	May 8	5,000,000	$ 1
Kemp Uranium Mines Limited ..	Montreal	Oct. 25	4,000,000	$ 1
Kenhurst Mining Corporation Ltd.	Montreal	March 8	5,000,000	$ 1
King Copper Mining Corporation	Montreal	Jan. 26	3,500,000	$ 1
Laduboro Oil Ltd.	Ste-Foy	Dec. 22	5,000,000	$ 1
Lake Superior Iron Ltd.	Montreal	June 21	5,000,000	$ 1

Company	Head Office	Date of Incor-poration	Number of Shares	Par Value
Laprairie Brick and Tile Incorporated (The	Montreal	Nov. 16	100	None
La Salle Asphalte Ltée	Quebec	June 15	200	$100
			(a) 200	$100
Lower Canada Mining and Fuming Corporation Ltd. ..	Montreal	May 26	5,000,000	$ 1
Lowlands Exploration Ltd. ..	Montreal	May 18	1,000,000	$ 1
McLaurin Feldspar Corporation	Montreal	Nov. 29	2,000,000	$ 1
Main Oka Mining Corporation.	Montreal	Dec. 21	3,000,000	$ 1
Marbrun International Mining Company Ltd.	Montreal	Nov. 5	3,000,000	$ 1
Massberyl Lithium Co. Ltd...	Malartic	March 11	5,000,000	$ 1
Matapedia Copper Ltd.	Montreal	June 23	4,000,000	$ 1
Matapedia Oil and Mining Development Corporation ..	Sayabec	Aug. 23	100,000	$ 1
Monarch Asbestos Co. Ltd. ..	Montreal	Oct. 19	4,000,000	$ 1
Montclair Mining Corporation Ltd.	Montreal	Feb. 25	4,000,000	$ 1
Montreal Gas and Oil Co. Ltd	Montreal	June 23	40,000	$ 1
Montreal Titanium Corporation	Montreal	Aug. 16	4,000,000	$ 1
Nashwaak Corporation of Canada Ltd.	Montreal	March 23	40,000	$ 1
New Quebec and Ungava Mining Corporation	Montreal	Dec. 14	1,000	$ 1
Northern Quebec Explorers Ltd.	Amos	Jan. 27	4,000,000	$ 1
Oilmont Petroleums Corporation	Montreal	Aug. 13	5,000,000	$ 1
Oka Mines Ltd.	Montreal	April 8	40,000	$ 1
Oka Rare Earths, Minerals and Uranium Ltd. (Remu) ..	Montreal	April 8	40,000	$ 1
Oka Uranium and Metals Ltd..	Montreal	March 2	5,000,000	$ 1
Orford Mines Limited	Montreal	May 8	4,000,000	$ 1
Pentagon Mining Corporation.	Montreal	Aug. 30	4,000,000	$ 1
Power Uranium Co. Ltd.	Montreal	Oct. 29	4,000,000	$ 1
Quebec Tungsten Ltd.	Montreal	Aug. 12	3,500,000	$ 1
Quedon Copper Uranium Corporation	Montreal	Aug. 16	4,000,000	$ 1
Rollet Uranium Co. Ltd.	Rouyn	Dec. 2	3,000,000	$ 1
Rouanda Sable et Gravier Ltée	Rouyn	Nov. 4	4,000	$ 10

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
St. Lawrence River Mines Ltd	Montreal	Sept. 10	5,000,000	$ 1
St. Lawrence River Oil Co. Ltd.	Montreal	Aug. 5	300,000	$ 1
Sable Moderne Limitée (Modern Sand Limited)	Ste-Dorothée	Jan. 29	100	$100
Seaway Petroleum Ltd.	Montreal	April 10	250,000	$ 1
Selby Mining Exploration Co. Ltd.	Montreal	Dec. 22	4,000,000	$ 1
Senneterre Metals Mines Ltd.	Senneterre	Jan. 29	4,000,000	$ 1
Shawinigan Nickel Corporation	Montreal	Oct. 1	4,000,000	$ 1
Sunbury Mines Limited	Hull	June 23	100,000	$ 1
Superior Asbestos Ltd.	Montreal	Nov. 25	3,000,000	$ 1
Talon Mining Corporation	Montreal	Oct. 4	4,000,000	$ 1
Trans-Canada Prospectors Development Corporation	Montreal	July 6	25,000	$ 1
Twin Mountain Uranium Mines Limited	Oka	July 30	5,000,000	$ 1
Uranium King Corporation	Montreal	April 8	10,000,000	$ 1
Uranium Lode Mines Ltd.	Montreal	Oct. 19	10,000,000	$ 1
Ungava Copper Corporation Limited	Montreal	Jan. 15	10,000,000	$ 1
Verchères Ore-Oil Corporation	Montreal	July 22	5,000,000	$ 1
Vital Uranium Corporation	Montreal	May 7	4,000,000	$ 1
Wakefield Uranium Mines Ltd.	Montreal	June 10	4,000,000	$ 1
Whitney Uranium Mines Ltd...	Montreal	March 31	4,000,000	$ 1
Wintern Mining Corporation	Montreal	Jan. 28	135,000	$ 1
Zemke Mining Co. Ltd.	Montreal	Jan. 16	30,000	$ 10

Mining Companies Incorporated in 1954 by Letters Patent of Ontario and Holding Mining Rights in Quebec

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Baranoui Uranium Mines Ltd..	Toronto	Sept. 16	3,000,000	$ 1
Buf-Gaspé Mines Limited	Toronto	April 20	3,500,000	$ 1
Canadian Lithium Mining Corporation Ltd. (The	Toronto	Sept. 8	5,000,000	$ 1
Cantab Mines Limited	Toronto	Dec. 30	3,500,000	$ 1
Concor-Chibougamau Mines Ltd	Toronto	April 28	3,000,000	$ 1

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Delmico Mines Limited	Toronto	Jan. 15	4,000,000	$ 1
Gusto Mines Limited	Toronto	Dec. 2	3,500,000	$ 1
International Lithium Mining Corporation Limited	Toronto	Aug. 9	3,500,000	$ 1
Kinmount Uranium Mines Ltd..	Toronto	July 8	3,000,000	$ 1
Nama Creek Mines Limited ...	Toronto	Jan. 28	3,000,000	$ 1
Oceanic Iron Ore of Canada Ltd.	Toronto	June 16	100,000	$ 1
Oka Rare Metals Mining Company Ltd.	Toronto	March 22	40,000	$ 1
Pardee Amalgamated Mines Ltd	Toronto	Dec. 31	6,000,000	$ 1
Tandem Mines Ltd.	Toronto	May 13	5,000,000	$ 1
Tide Lake Lithium Mines Ltd.	Toronto	Nov. 16	5,000,000	$ 1

Mining Companies Incorporated in 1954 by Federal Charter and Holding Mining Rights in the Province of Quebec

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Bomac Exploration Limited ..	Thetford Mines	May 25	100,000	None
Canadian Johns-Manville Asbestos Ltd.	Asbestos	Dec. 2	1,000	$100
Century Mines and Developments Ltd.	Montreal	Feb. 8	3,500,000	None
Martex Mining and Development Ltd.	Campbellton	June 14	200,000	None
Onslow Molybdenum Ltd.	Ottawa	Jan. 4	3,000,000	$0.10
Technore Explorers Company Ltd	Bourlamaque	March 24	50,000	$ 1

DIVISION OF EDITING AND PRINTING OF PUBLICATIONS

The chief of this division, Maurice Brunet, submits the following report for the fiscal year 1954-55.

Following is a list of the publications of the Department of Mines edited during the fiscal year 1954-55. All publications are issued in French and in English.

The Mining Industry of the Province of Quebec for 1953

Geological Report No. 63 - Zinc and Lead Deposits in Lemieux Township, P.-E. Auger
Geological Report No. 64 - Branssat-Daine Area, J.-E. Gilbert
Geological Report No. 66 - Saint-Jean-Beloeil Area, T.H. Clark

Preliminary Report No.302 - Geochemical Soil and Water Surveys in Lemieux Township, John E. Riddell
Preliminary Report No.303 - General Report of the Minister of Mines of the Province of Quebec for the Year ending March 31st, 1954
Preliminary Report No.304 - Waco Lake Area, Roger A. Blais
Preliminary Report No.305 - The Use of the Thermobalance in Analytical Chemistry, F. Claisse, F. East, F. Abesque
Preliminary Report No.306 - A Chemical Study of the Peats of Quebec, Parts VIII, IX, X, J. Risi, C.-E. Brunette, H. Girard
Preliminary Report No.307 - Bristol Area, R.-J.-E. Sabourin
Preliminary Report No.308 - Ste-Perpétue Area, J. Béland
Preliminary Report No.309 - Gérido Lake Area (East Half), Pierre Sauvé
Preliminary Report No.310 - Ducharme-Bouteroue Area, A.-F. Laurin
Preliminary Report No.311 - Thévenet Lake Area (West Part), Robert Bergeron
Preliminary Report No.312 - Gradis-Machault Area, A.-N. Deland
Preliminary Report No.313 - Bailloquet Area, M.A. Klugman
Preliminary Report No.314 - St-Georges-St-Zacharie Area, W.A. Gorman

S-19 - Elementary Mineralogy, J. Girault
S-22 - The Quebec Mining Act

PUBLICITY AND INFORMATION

To keep the public informed of the new developments in the domain of the mineral riches of the province and that of its mining industry, the officials of the Department of Mines prepare lectures and papers which are presented to groups or societies. Several articles are also prepared for technical reviews and specialized newspapers, as well as for the daily press. The numerous publications of the Department on geology and the mining industry keep the public up to date on the progress realized from year to year.

The main articles in this domain this year were:

By the Honourable W.M. Cottingham, Minister of Mines:-

Articles:

Le Devoir, Montreal, June, 1954
Journal of Commerce, New York, September, 1954
Financial Times, Montreal, September, 1954 -
Recent Developments in the Mining Industry of the Province of Quebec
The Gazette, Montreal, December, 1954 -
Numerous New Records Established by the Mining Industry of Quebec in 1954

Speeches:

At Noranda , October 21, 1954
At the Renaissance Club, Quebec, Nov. 23, 1954
At the Rotary Club, Ville St-Laurent, Montreal, Jan. 24, 1955
At the Victoria Curling Club, Quebec, February, 1955

By A.-O. Dufresne, Deputy Minister of Mines:-

"New Quebec, Its Resources", lecture delivered at a luncheon of Club H.E.C., Queen's Hotel, Montreal, Jan. 17, 1955.

By Jean-Paul Drolet, Chief of the Technical Information Division:-

"Mining Development and Engineering in Quebec", lecture presented before the members of the Engineering Institute of Canada at their annual meeting at Quebec, May, 1954. The text of this lecture was published in The Engineering Journal, July, 1954.

"Les développements récents dans l'industrie minière", illustrated lecture presented to the members of l'Association Forestière de la Province de Québec, regional congress at St-Joseph d'Alma, June, 1954.

"Considérations sur la carte minérale de la province de Québec", illustrated lecture presented to the members of the Rotary Club, Château Frontenac, Quebec, October, 1954.

"Un aspect nouveau de notre économie - l'industrie minière", lecture delivered before the members of the Richelieu Club, Montmagny, October, 1954.

"Les réalisations récentes dans l'industrie minière", lecture delivered before the Richelieu Club at Victoriaville, December, 1954.

"Many New Records Sure for Quebec Mining", article published in the annual number of the Northern Miner, November, 1954.

"Le domaine minier de la province de Québec", article published in the review "Culture", December, 1954.

"Quelques répercussions économiques d'une nouvelle région minière, Chibougamau", lecture delivered before the members of the Richelieu Club of Roberval, March, 1955.

By Jacques Béland, Geologist:

"La stratigraphie et structure des Appalaches au sud-est de Québec", lecture delivered at the annual meeting of l'Association Canadienne-Française pour l'Avancement des Sciences (ACFAS), Quebec, November, 1954.

By Robert Bergeron, Geologist:

"Sources des sédiments de la Fosse du Labrador", lecture delivered at the annual meeting of ACFAS, Quebec, November, 1954.

By Roger Blais, Geologist:

"Les contrôles structuraux de la déposition de l'or à la mine O'Brien", et,
"L'altération hydrothermale en bordure des filons aurifères de la mine O'Brien";
conferences delivered at the annual meeting of ACFAS, Quebec, November, 1954.

By H.C. Cooke, Geologist:

"An Early Palaeozoic Orogeny in the Eastern Townships of Quebec", conference presented to the members of the Geological Association of Canada, annual meeting, Calgary, May, 1954, and published in Proceedings, G.A.C., Vol. 7, Pt. 1, pp. 113-121, May, 1955.

By Roland DeBlois, Engineer-Geologist:

Lecture delivered on the geological problems associated with the supply of drinking water, before the meeting of L'association des Propriétaires d'Aqueducs de la province de Québec, Montmagny, October, 1954.

By H.W. McGerrigle, Geologist:

"Outline of the Geology of Gaspé Peninsula", article published in the Canadian Mining Journal, Vol. 75, No. 8, pp. 57-63, August 1954.

By Raymond Roy, Engineer-Geologist:

"Gisement fossilifère de la rivière Famine, comté de Beauce", lecture delivered at the annual meeting of ACFAS, Quebec, November, 1954.

By Robert Sabourin, Geologist:

"L'escarpement d'Eardley", lecture delivered at the annual meeting of ACFAS, Quebec, November, 1954.

By P.-E. Grenier, Geologist:-

"Le gisement nickelifère et cuprifère de Eastern Metals Corporation Limited, canton de Rolette", lecture delivered at the annual meeting of ACFAS, Quebec, November, 1954.

COLLECTION OF DUES ON MINES

Sylvio Drouin, in charge of this division, submits the following report:

During the fiscal year 1954-55, the Department of Mines received sworn statements on mineral production from 32 mining companies. These returns give the statement of profits, accompanied by vouchers, as required by Division III of the Quebec Mining Act. From this source, the Department of Mines collected a sum of $3,606,149.09* on net profits as defined by the law.

In addition to the above, which is a tax on the annual net profit of mines, there is a small annual acreage tax of 10 cents per acre due by holders of mining concessions who have not carried out mining or development work on their idle mining lands during the year (Quebec Mining Act, Div. VIII, Sec. 50). The Department of Mines received returns from 257 owners of unproductive properties. A sum of $3,343.08 was collected from 114 holders of such dormant properties. The other 143 holders of unproductive properties sent in sworn statements that at least two hundred ($200) dollars had been spent in development work on their concessions during the year. This is a statutory condition for exemption of the acreage tax mentioned above (Quebec Mining Act, Div. VIII, Sec. 50).

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*There is a difference between the figures given in the above table by the assessor and those given by the Accounting Division. This is due to the fact that the assessor bases his accounting on "receipts", whereas the Accounting Division bases its figures on "revenues".

Table XII - Comparative Statement of Revenue Collected by the Department of Min... During the Fiscal Years 1952-53 to 1954-55

(Prepared by Gérard Gagnon, Chief Accountant)

	1952-53	1953-54	1954-55
Miner's certificates	$ 75,090.00	$ 104,240.00	$ 109,791.00
Development licenses	534,318.48	545,988.97	647,963.60
Exploitation leases	100,000.00	100,000.00	100,000.00
Sales of mining concessions.	26,462.84	6,972.07	8,909.40
Fees for transfer of titles.	2:,100.00	21,540.00	31,020.00
Taxes on mining concessions.	2,890.28	3,033.69	3,343.08
Rights on townsite lots	14,379.77	13,441.76	6,512.52
Rentals on townsite lots ...	258.00	216.00	2,849.00
Dues on annual profits	5,017,541.97	4,478,200.36	3,621,735.80
Permits of sales of unwrought metals	18.00	20.00	24.00
Water and Sewage taxes	---	---	987.00
Rental of land on townsite lots	---	---	600.00
Sales of maps, blue prints, etc.	4,330.30	4,712.10	6,367.26
Mineral collections	959.25	1,613.05	2,506.55
Fees for assay and analyses.	2,572.65	3,975.92	10,217.80
Miscellaneous	9,129.43	11,483.51	12,194.81
Casual revenue	---	1,218.69	1,727.90
Total	$5,812,050.97	$5,296,656.12	$4,566,749.72

THE LIBRARY

Librarian André Champagne reports that the Library of the Department of Mines received during the course of the last fiscal year either through purchase or exchange 1,562 reviews, 642 reports, 364 pamphlets, 260 volumes, 19 manuscripts, and 245 maps, making a total of 3,092 units.

The purchase of volumes did not exceed that of last year to any extent; from 135 in 1953-54 it amounted to 139 this year. In addition to these purchases made by the Department, the Library receives numerous volumes in exchanges made with the Federal Government and the governments of the other provinces, the United States, various countries of Europe, Asia and Africa. These volumes deal mainly with the mining industry and its economic questions relative

to metallurgy, and related sciences, such as geology, mineralogy, chemistry, and physics.

The Librarian had bound during the course of the year 5 volumes, 15 reviews and 78 reports besides having 135 geological and topographical maps put on linen.

The main object of the Library of the Department of Mines is to be of assistance to the technical personnel of the Department in its daily work. It recorded during the year, 117 loans of documents besides numerous consultations given within the library itself. Thanks to its service of periodicals, reviews, and other publications, always up to date, the technical personnel is always informed of the most recent mining developments. Our subscriptions to technical periodicals and newspapers exceed twenty, whereas we have over one hundred reviews and magazines.

The public, which continues to be interested in questions pertaining to the mining industry, is assured of a courteous welcome at the library. During 1954-55 there were 572 visitors who came to consult our reports and maps and to get information from our technical personnel.

As in the past, the Library Committee held its monthly meetings to decide what volumes to purchase and subscribe to and to settle certain administrative matters.

SCHOLARSHIPS

The Legislature raised to $45,000.00 for the year 1954-55 the total amount available for scholarships to be awarded to students in geology, in metallurgy or in the exploitation of mines.

These scholarships were awarded upon the recommendation of a Committee appointed by the Minister and composed of representatives of the mining industry and teaching institutions.

This Committee was composed during 1954-55 of the following: Eugène Larochelle, General-Secretary of Quebec Metal Mining Association and President of the Committee; Ignace Brouillet, President of Corporation de l'Ecole Polytechnique; J.U. MacEwan, Director of the Department of Metallurgy, McGill University; Reverend J.-W. Laverdière, Director of the Department of Geology, Faculty of Science, Laval University; Gérard Letendre, Director of the Department of Mines and Metallurgy, Faculty of Science, Laval University; and

H.G. Young, Principal of Quebec High School. Miss Gisèle Landreville was Secretary of the Committee.

The Committee proceeded, as in the past, to study applications. To begin with, it considered the applications of holders of diplomas who wish to obtain a Master of Science degree or a Doctorate; next, it studied the applications of holders of scholarships of the preceding year who fulfilled all the requirements for a renewal; and, lastly, it considered the application of new candidates having matriculation in the order of merit and qualification.

The Department of Mines awarded during 1954-55 seventy scholarships, distributed as follows:

Candidates to post graduate courses	27
Students entering final year in science faculties	14
Students in less advanced years	29
	70

The members of the Committee wish to express their thanks to the Government of the Province for the financial assistance given our young men who prepare themselves to play an important role in the mining industry.