RP 378(A)

GENERAL REPORT OF THE MINISTER OF MINES OF THE PROVINCE OF QUEBEC FOR THE YEAR ENDING MARCH 31ST 1958

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Énergie et Ressources naturelles
Québec

GENERAL REPORT

of the

MINISTER OF MINES

of the

PROVINCE OF QUEBEC

FOR THE YEAR ENDING MARCH 31st

1958

P. R. NO. 378

Quebec, July, 1958.

To the Honourable
Onésime Gagnon, P.C., Q.C.,
Lieutenant-Governor of the
Province of Quebec.

Sir,

I have the honour to submit to you, in accordance with Section 229 of the Quebec Mining Act, a summary report of the work carried out by the Department of Mines during the fiscal year ending March 31st, 1958.

Your respectful servant.,

W.M. Cottingham,
Minister of Mines.

Quebec, July, 1958.

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

Sir,

In compliance with Section 229 of the Quebec Mining Act, Chapter 196, Revised Statutes of Quebec 1941, 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, 1957, to March 31st, 1958.

Your obedient servant,

A.-O. Dufresne,
Deputy Minister.

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GENERAL REPORT OF THE DEPARTMENT OF MINES

OF THE PROVINCE OF QUEBEC

For the Fiscal Year Ending March 31st, 1958

THE MINING INDUSTRY OF THE PROVINCE OF QUEBEC

IN 1957-58

The value of the mineral production of the Province of Quebec amounted to $438,701,683 during the calendar year 1957. This total, subject to slight revisions, represents a decrease of 5.3 per cent below the value for 1956. Lower prices for copper, lead and zinc, coupled with the most unfavourable discount on United States funds in twenty-five years, were the factors responsible for this slump.

However, the above-mentioned factors did not affect the demand for industrial and building minerals.

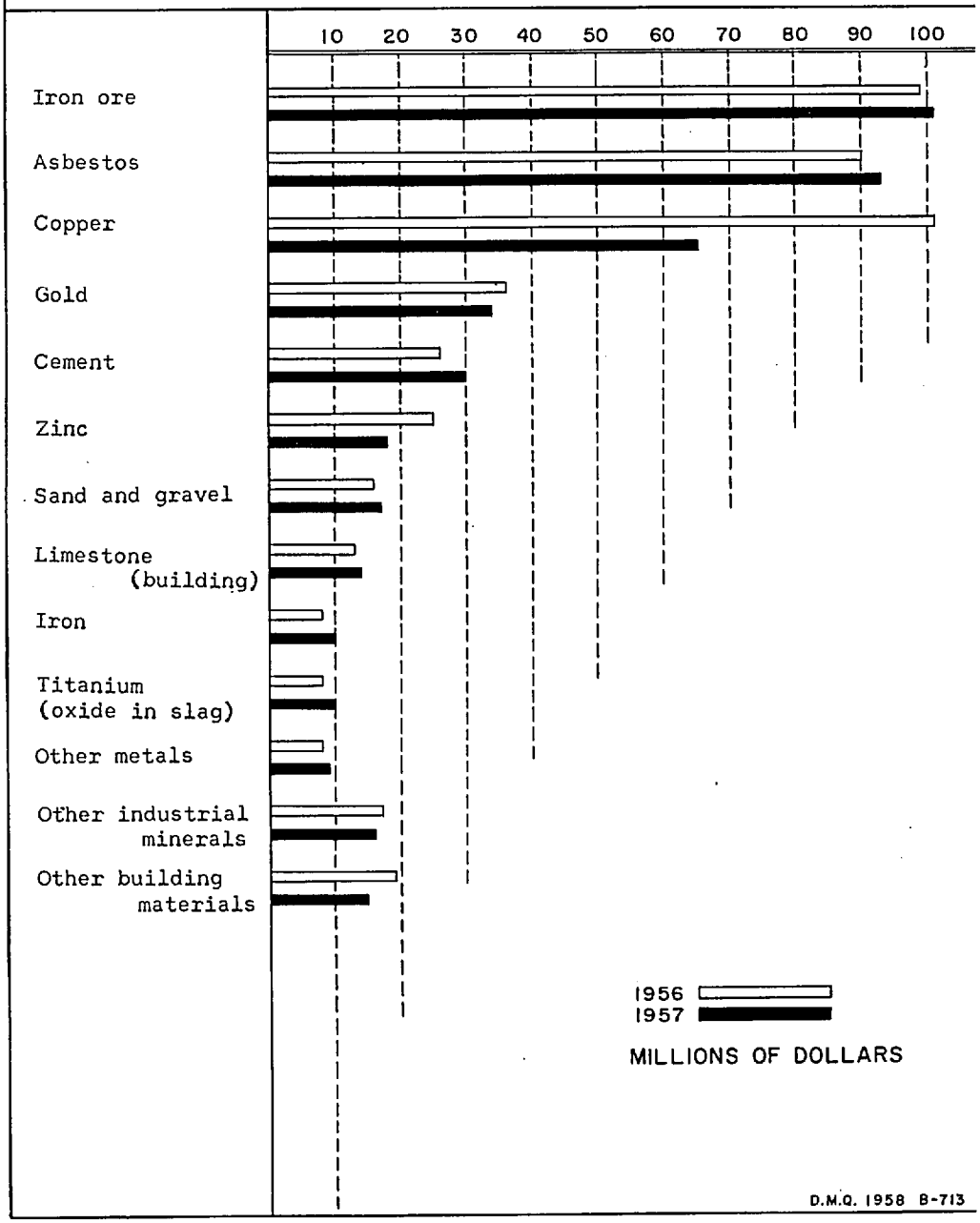
IRON ORE

In the electoral district of Pontiac, The Hilton Mines completed the building of its beneficiation plant. Production of iron ore pellets began officially on January 14th, 1958.

Quebec Cartier Mining Company completed the building of a truck road between Shelter Bay and Lake Jeannine. A subsidiary, La Compagnie de Chemin de Fer Cartier, was incorporated on February 6th, 1958. The company intends to proceed with its plans of building a railway, a concentrator, two townsites, and dock loading facilities.

Promising discoveries of iron ore have been made in Houdet, Montgolfier, and Vauquelin townships and in the Mistassini region.

MINERAL PRODUCTION



D.M.Q. 1958 B-713

Table I - Value of the Mineral Production of the Province of Quebec for Calendar Years 1956 and 1957

	Value 1957	Value 1956
METALLICS		
Bismuth	$ 267,908	$ 230,213
Copper	65,084,941	101,288,640
Gold (a)	33,894,626 (a)	35,726,717
Iron	10,083,434	7,996,897
Iron ore (b) (1)	101,000,000	99,050,321
Lead	756,324	891,145
Magnesium (1)	906,555	1,536,688
Molybdenum	1,166,557	955,828
Selenium	1,851,190	1,586,993
Silver	3,185,657	3,644,150
Tellurium	40,124	- - -
Titaniferous iron ore	97,075	16,561
Zinc	17,964,469	25,516,714
Total metals (1)	$ 236,298,860	$ 278,440,867
NON-METALLICS		
I - Industrial Minerals		
Asbestos	$ 93,616,875	$ 90,531,456
Feldspar	393,284	364,849
Industrial lime	3,598,072	3,791,679
Industrial limestone (1)	1,225,351	1,240,788
Lithium	2,827,143	2,643,950
Magnesitic dolomite and brucite	3,046,298	2,783,181
Marl	190,714	105,872
Mica	105,310	93,761
Mineral water	183,155	148,167
Ochre and iron oxide	187,211	186,225
Peat (moss and humus)	1,140,476	951,644
Quartz and industrial sand (1)	1,321,871	1,243,465
Soapstone and talc	220,330	185,298
Sulphur	2,814,766	2,985,829
Titanium dioxide (in slag)	9,740,570	7,682,911
Total industrial minerals (1)	$ 120,611,426	$ 114,939,075
II - Building Materials		
Building lime	$ 670,916	$ 673,067
Building limestone (1)	14,650,054	13,588,256
Cement	30,267,092	25,696,957
Clay products - Brick	6,885,096	7,270,450
Clay products - Other products	2,012,508	2,143,464
Granite (1)	6,514,000	3,184,330
Marble (1)	94,022	219,007
Sand and gravel (2)	17,415,172	16,354,886
Sand-lime products - Brick	311,107	471,151
Sand-lime products - Blocks	34,412	75,972
Sandstone	2,887,007	589,966
Slate and shale	50,011	33,520
Total building materials (1)	$ 81,791,397	$ 70,301,026
Grand Total	$ 438,701,683	$ 463,680,968

(a) Value in Canadian funds. The standard value at the rate of $20.671834 per ounce troy is $20,884,175 for 1957 and $21,437,932 for 1956.

(b) In view of the uncertainty as to the boundary line, it is impossible, under present conditions, to give exactly shipments of iron ore having originated in Ungava. Figures given here represent shipments from Ungava and Labrador.

(1) Subject to revision.

(2) Estimate.

Table II. - Subdivision of the Annual Value of the Mineral Production of the Province of Quebec 1951 to 1957

Year	Metals	Per cent	Industrial Minerals	Per cent	Building Materials	Per cent	Total
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	137,780,968	48	94,092,032	32	56,475,399	20	288,348,399
1955	215,781,654	56	105,890,962	27	66,990,217	17	388,662,833
1956	278,440,867	60	114,939,075	25	70,301,026	15	463,680,968
1957	236,298,860	54	120,611,426	27	81,791,397	19	438,701,683*

* Subject to revisions.

NICKEL

In April 1957, the Lieutenant-Governor in Council granted mineral exploration licenses to 32 mining companies. The licenses, which cover an area of nearly 4,000 square miles, authorize these companies to carry out exploration work in a mineralized belt extending from Cape Smith on Hudson Bay to Wakeham Bay on Hudson Strait, in the Ungava Peninsula. Some encouraging results have been obtained and many companies are planning to return in the field during the summer of 1958.

COPPER

The price of copper kept declining during the fiscal year under review, thus forcing many companies either to curtail or to suspend their development programmes. Three producers suspended operations: in September 1957, there were Beattie-Duquesne Mines Limited and Lyndhurst Mining Company Limited, and, in March 1958, Rainville Mines Limited. Registering a low of 24.5 cents a pound, in January 1958, the price of copper remained at that level until the end of the fiscal year. Indications are that the metal price is making a slow recovery.

OTHER METALS

Gold: Gold production was slightly below the level of 1956. However, owing to a very unfavourable rate of exchange between the Canadian and the American dollars, the value received by our producers was quite inferior to that attained in 1956.

Lead and zinc: The depressed prices of these two metals forced Barvue Mines Limited to suspend operations in September 1957, while New Calumet Mines Limited curtailed its production from 530 to 320 tons of ore per day.

INDUSTRIAL MINERALS

Taken as a whole, this section of our mineral industry experienced a good year in 1957. Most of our asbestos producers were engaged in some form of expansion or construction. Three forthcoming producers, Lake Asbestos of Quebec, Carey Canadian Mines Limited, and National Asbestos Mines Limited were pushing their construction programmes so as to be able to start production in the early summer of 1958.

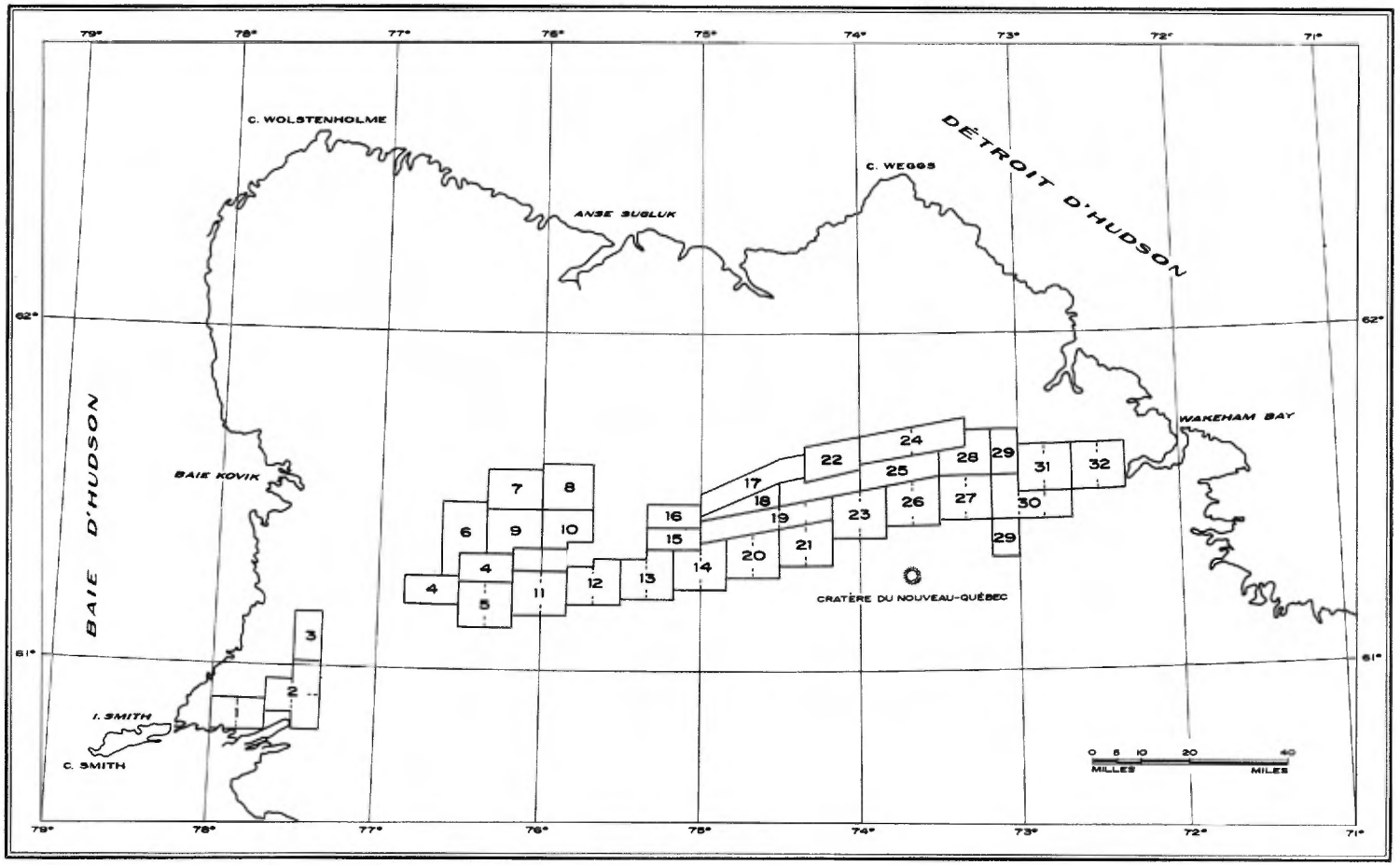
Spar Mica Corporation, a new feldspar producer, officially opened its mine and concentrator in mid-November. This company's operations are located near the village of Baie Johan Beetz, on the North Shore of the St. Lawrence.

BUILDING MATERIALS

The demand for building materials remained at a high level during 1957, despite a severe drop in the residential construction field. Large engineering and industrial contracts were responsible for this continued and, in some cases, increased demand.

MINERAL RIGHTS BRANCH

F.-U. Roux, Chief Mining Recorder, reports a slight decrease in the total number of claims registered in the Province during the 1957-58 fiscal period. This diminution was the result of a drop in mining activities in the Montreal and Chibougamau regions. However, the Quebec, Amos, and Noranda agencies show an increase in this field. The claims registered during the year under review numbered 45,901, as compared with 51,259 for the fiscal year 1956-57.



RÉGION DE CAPE-SMITH — WAKEHAM-BAY AREA

Nos.	Companies	Blocks under mineral expl. lic.
1	Wales Quebec Mines Limited	M-3 M-4
2	Bilson Quebec Mines Limited	M-7 M-18 M-20
3	La Mine Faucon Limitée	M-22
4	Red Gold (Quebec Mining Co. Ltd.)	M-42 M-52
5	Parlo Quebec Mines Limited	M-47 M-48
6	Kennco Explorations (Quebec Ltd.)	M-46
7	Keewa Quebec Mines Limited	M-57
8	Cape Smith Quebec Mines Ltd.	M-58
9	Hubert Lake Quebec Mines Limited	M-55
10	Pecton Quebec Mines Limited	M-56
11	Kingwa Quebec Mines Limited	M-49 M-50
12	Korak Quebec Mines Limited	M-51 M-59
13	Nuvilik Quebec Mines Limited	M-60 M-61
14	Nituk Quebec Mines Limited	M-62 M-71
15	Stupart Quebec Mines Ltd.	M-64
16	Ekwan River Mines Limited	M-66
17	LeMoyne Rim Mines Limited	M-76
18	Tazin Mines (Quebec Ltd.)	M-75
19	Kovik Quebec Mines Ltd..	M-74 M-85w M-85e
20	Vanasse Quebec Mines Ltd.	M-72 M-73
21	Sugluk Quebec Mines Ltd.	M-81 M-82
22	Crater Quebec Mines Ltd.	M-89
23	Esker Quebec Mines Limited	M-86 M-87
24	LeMoyne Ungava Mines Ltd.	M-103 M-104
25	Ranlux Mines Limited	M-100
26	Chukotat Quebec Mines Limited	M-95 M-96
27	New Quebec Mining and Exploration Limited	M-97 M-98
28	Raglan Quebec Mines Ltd.	M-101
29	Hochelaga Quebec Mines Limited	M-94 M-102
30	Mid-Chibougamau Mines Limited	M-99 M-114
31	Area Mines Limited	M-118 M-119
32	Kyak Quebec Mines Limited	M-120 M-121

Reports of development work filed show 1,867,291 man-days against 2,833,696 for the year 1956-57, and 1,206,896 feet of diamond drilling, as compared with 1,524,078 feet drilled last year.

In 1957-58, 13,608 Miner's Certificates were issued; in 1956-57, 15,686 certificates had been issued.

New Development Licenses issued numbered 2,714, and there were 6,681 renewals. In 1956-57, there had been 4,299 new and 6,881 renewed licenses.

During the year, seven mining concessions aggregating 2,220 acres were granted, as compared with four concessions covering 1,318 acres in 1956-57.

Transfers of mining rights numbered 4,861 down from 5,244 registered in 1956-57

A total of 38 mineral exploration licenses was issued during the year under review: 34 licenses for all minerals in the territory of New Quebec covering an area totalling 3,304.8 square miles, and four for gas and oil in the St. Lawrence Lowlands covering 128,648 acres in all. This is a rather substantial increase; comparative figures for the past years show twenty licenses in 1956-57, four in 1955-56 and three only in 1954-55.

By an Order in Council, dated June 5th, 1957, amended by the Order in Council of August 22nd, 1957, certain parts of the townships of Babel and LeNeuf, together with four parcels of land in the areas of Lake Jeannine, Lake Barbel, Little Lake Manicouagan and Hart-Jaune River, and a strip of land, extending one mile on both sides of the centre line of the proposed railway of the Quebec Cartier Mining Company were withdrawn from staking.

By an Order in Council, dated January 30th, 1958, an area located in the townships of Linière, Jersey, Marlow and in the parish of Saint-Georges de Beauce, covering part of the river beds of the Chaudière, Famine, Rivière-du-Loup, Pozer, Grande-Coulée, Metgermette and Portage rivers, together with part of the beds of the streams Moore, Repos and Oliva, was withdrawn from staking effective February 1st, 1958.

Table III - VARIOUS TITLES ISSUED BY THE DEPARTMENT OF MINES

(Fiscal years 1956-57 and 1957-58)

Designation of titles	1956-57	1957-58
Mining claims registered at Amos	18,037	23,383
Mining claims registered at Noranda	7,134	7,457
Mining claims registered at Quebec	8,348	9,827
Mining claims registered at Chibougamau	12,607	3,467
Mining claims registered at Montreal	5,133	1,767
Total	51,259	45,901
Miner's certificates issued	15,686	13,608
Development licenses issued	4,299	2,714
Development licenses renewed	6,881	6,681
Mining concessions granted	4	7
Transfers of titles registered	5,244	4,861
Reports of work: man-days reported	2,833,696	1,867,291
Reports of work: diamond drilling, in feet: ..	1,524,078	1,206,896
Number of assay coupons delivered	39,127	24,746

Table IV - MINING TITLES ISSUED SINCE 1947-48

Fiscal Year	Number of Miner's Certificates	Number of Mining Claims Recorded	Number of Development Licenses	Concessions		Transfers of Mining Rights
				Number	Acres	
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
1955-56	20,193	60,315	9,564	14	2,674	5,402
1956-57	15,686	51,259	11,180	4	1,318	5,244
1957-58	13,608	45,901	9,395	7	2,220	4,861

Table V - COMPARATIVE STATEMENT OF EXPLORATION WORK

ON MINING CLAIMS UNDER LICENSES DURING

CALENDAR YEARS 1947 TO 1957

Year	Number of work-days (Man-days)	Diamond Drilling (In feet)
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
1955	1,107,712	417,144
1956	2,338,452	1,321,429
1957	2,298,128	1,511,580

MINING OPERATIONS BRANCH

Duties

The Branch is concerned with problems directly affecting the operations of all mines and quarries in the Province; it is supervised by R.H. Taschereau, Chief Mining Engineer. Its main duties may be summarized as follows:

1) Preparation of periodical reports on the development and operation of mines and quarries and on the state of the mining industry in general.

2) Application of the Quebec Mining Act with particular reference to the following sections:

Sec. 12 - Collection of duties upon mines.
Sec. 13 - Examination of sites of proposed treatment plants.
Sec. 35 - Use of mining concessions for purposes other than mining.
Sec. 37 - Use of Crown lands for works to facilitate mining operations.

Sec. 70 - Erection of buildings on Crown lands.
Sec. 113 - Compilation of mineral statistics.
Sec. 123 - Inspection of tailing sites with a view to preventing damage to surrounding properties and water courses.

3) Protection of workmen in mines and quarries in accordance with the regulations enacted under Section 197 of the Quebec Mining Act. Under M.-O. Lafontaine, Chief Inspector of Mines, this phase of the duties of the Branch involves the following:

a) Regular inspections of mines and quarries to ensure that the safety regulations are being observed and the reporting on those inspections to the Department of Mines.

b) Inspections and approval of electrical installations.

c) Surveys of ventilation systems and testing of samples of dust and dangerous gases.

d) Enforcement of legislation requiring all workmen engaged in dust exposure occupations to undergo an X-ray examination every year.

e) Establishment and maintenance of Mine Rescue Stations throughout the Province and training of mining company personnel in rescue work.

f) Organization and supervision of the annual Mine Rescue Competition.

g) Investigation of fatal and other serious accidents in mines and quarries, preparation of detailed reports thereon and distribution of those reports throughout the industry to assist in the prevention of similar accidents.

h) Study and classification of all compensable accidents and preparation of statistics showing the causes and frequency of accidents in the industry, as a guide and incentive to improve accident prevention.

i) Co-operation with national and international organizations devoted to the maintenance of the health and safety of workmen in mines and quarries.

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 electoral district, eastward to the north of the St. Lawrence river, including New Quebec, Anticosti island and Magdalen Islands electoral district.

No. 3 district comprises the electoral districts of Abitibi-East, Abitibi-West, Rouyn-Noranda and Témiscamingue.

Activities

1) a) During the period under review the number of inspections carried out by our engineers increased from 258 in the previous period to 374, whereas ventilation surveys and dust counts increased from 325 to 1,168. This is a result of engaging additional personnel and of increasing the number of air samples taken to obtain a better picture of air conditions in the mines.

In addition to the above, an intensive study of the operation of friction hoists is being made with a view to permitting their introduction into the mining industry in the Province.

b) The official mine rescue station building in Thetford Mines was completed and equipped during the period under review and training of mine rescue crews is well underway. With rescue stations at Noranda and Bourlamaque, this brings to three the number of main rescue stations in addition to eight substations distributed throughout the Province, thus providing adequate protection to all mining companies in case of emergency.

There were 119 new men trained in mine rescue operations during the year. The total active mine rescue personnel has increased from 301 to 378. To maintain their proficiency, these specialists are required to take a refresher course once a month under the direction of our mine rescue superintendents.

The Annual Mine Rescue Competition was held this year in Noranda and the three leading teams were entered by the following mining companies:-

1st - Golden Manitou Mines Limited.
2nd - Quemont Mining Corporation Limited.
3rd - Lamaque Gold Mines Limited.

These teams have brought great credit to their employers and themselves and have helped to maintain the keenness which has always been exhibited in these competitions.

c) The number of X-ray examinations and certificates given to workmen engaged in dust exposure occupations rose from 11,969 in the 1956-57 period to 15,066 in the period under review, reflecting the results of the operations of the new industrial clinic in Thetford Mines.

d) The accident frequency rate for the mining industry as a whole was 38.7 compensable accidents per 1,000 men per 300 days. It may be noted that the accident frequency rate ten years ago was 93.9. This year's rate is one of the lowest in Canada, and is the result of untiring efforts and complete co-operation by the workmen of the mining industry, the officers of the mining companies, and our engineers.

e) Investigations were carried out at a number of base-metal mines to determine the effects of the tailings effluents on near-by lakes and rivers. These investigations are still in progress.

f) Owing to new developments and increased mechanization in mining operations, our Regulations for the Safety and Protection of Workmen in Mines and Quarries require revision. During the year, a committee was appointed for the purpose of revising these Regulations. The recommendations of this committee are to be submitted to the Commission that has been appointed by the Legislature for the study and revision of the Quebec Mining Act.

A partial summary of the work of the Mining Operations Branch for the period under review is presented in the following table with comparative figures for the previous period:-

	1956-57	1957-58
Inspections of mines and quarries	214	339
Inspections of electrical installations	44	35
Underground ventilation surveys	32	93
Dust counts	293	975
Mine rescue certificates issued	127	112
Active mine rescue personnel	301	378
Mine rescue station reports received ...	127	202
Hoistmen's medical certificates issued	321	293
Hoisting rope records received	241	252
Hoisting rope breakage tests	298	297
Pressure vessel inspection reports	96	71
X-ray examinations of miners	11,969	15,066

COLLECTION OF DUES ON MINES

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

During the fiscal year 1957-58, the Department of Mines received, from 38 mining companies, sworn statements covering their profits, together with supporting vouchers. The sum of $6,687,772.97[A] was collected by the Department on the net profits as defined in Division III of the Quebec Mining Act.

In addition, the statutory tax of $0.10 per acre was paid by 128 holders of mining concessions. They remitted a total of $3,506.63. Affidavits were received from 151 holders of mining concessions stating that expenditures amounting to at least $200 had been incurred in the performance of development work.

DIVISION OF MINERAL STATISTICS

This Division, under C.-O. Beaudet, has the task of preparing monthly and annual statistical reports on the mineral production and other activities of the mining industry in the Province. These statistics are compiled from reports supplied periodically by the operators of mines and quarries.

Except for some special surveys, the Division works in collaboration with the Dominion Bureau of Statistics. The latter usually prints the numerous forms required. The Division undertakes to collect the reports in duplicate and transmits one copy to the Federal bureau. The data are compiled by both agencies and the results compared.

Most of the information thus gathered is presented elsewhere in this report and in the annual publication of the Department of Mines entitled "The Mining Industry of the Province of Quebec", and in regular monthly and quarterly bulletins. The remainder, being of a more limited interest, is for government use.

[A] The difference between the figures given by the Assessor and the Accountant stems from the different accounting methods used. The Assessor bases his accounting on "receipts", whereas the Accountant bases his on "revenues".

During the first part of the 1957-58 fiscal year, the Division continued and completed the collection of reports pertaining to the 1956 calendar year. It compiled all the information received for that period.

To compile the mineral statistics of the 1956 calendar year, the Division had to obtain the following reports:

	Number
Annual reports on activities of operators of mines and quarries:	
Reports on expedition of products	1,360
Reports on exploration and development work done on non-productive mining lands	480
Reports on inactive mining properties	1,137
Monthly reports on mineral production	745
Annual reports from building contractors on raw material used	41
Reports of mine operators on timber used in mines	117
Reports on expenditures, by mine operators, for the welfare of their employees and families	48
Reports on the capital obtained by mining companies	784
TOTAL	4,712

Throughout the year, the Division endeavoured to obtain the reports required for the monthly statistical statements on mineral production, an average of 58 reports per month.

Towards the end of 1957, the Division prepared for publication a list of the principal operators of mines and quarries in the Province, with their address and the location of their property.

One of the annual surveys pertains to the net capital sums received by mining companies doing business in the Province, from the following financial transactions: sale of capital stock, sale of bonds or other issued titles, other long-term loans contracted. Compilation of reports submitted for 1956 gives a total of $60,800,000 received from the three sources. The total for the year 1955 had been $76,100,000. A brief study of the reports on hand for the year 1957 and of the list of those to be received would indicate that the corresponding figure for 1957 will be of the order of $65,000,000, or slightly above that of the preceeding year.

The number of the new mining companies was slightly larger in 1957 than the year before. During this period, 183 of these companies were incorporated by Quebec charter. Furthermore, 11 companies with Ontario charter have acquired mining properties in the Province. There were 194 companies organized to carry out mining activities in the Province. In 1956, there had been 187, of which 149 had a Quebec charter, 35, an Ontario charter and 3, a Federal charter.

Following is a list of the new mining companies for the year 1957, with their head office, date of incorporation, and capitalization.

MINING COMPANIES INCORPORATED

BY QUEBEC CHARTER IN 1957

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Abundant Minerals Mining Corporation	Montreal	Mar. 2	5,000,000	$ 1.
Ace Drilling Company Ltd. ..	Rosemère	May 22	1,000	$ 10.
			(a) 3,000	$ 10.
Alsab Mines Ltd.	Montreal	May 24	4,000,000	$ 1.
American Mines and Minerals Ltd.	Grand'Mère	July 23	3,000,000	$ 1.
Amos Copper Mines Ltd.	Montreal	July 30	5,000,000	$ 1.
Anglo American Mines Ltd. ..	Montreal	May 6	5,000,000	$ 1.
Antares Mining Corporation	Montreal	Sept.20	5,000,000	$ 1.
Argosy Development Corp. ...	Montreal	Sept.26	10,000	$ 10.
Auger Gas and Oil Corp.	Montreal	Sept.26	40,000	$ 1.
Aurele Mining Corporation ..	Montreal	Sept.24	4,000,000	$ 1.
Aube-Explorations Limited ..	Quebec	Feb. 20	100,000	$ 1.
Baie Ungava Prospecteurs Ltée.	Quebec	June 17	30,000	$ 10.
Baker Chip Talc Mines Ltd.	Montreal	Aug. 14	4,000,000	$ 1.
Batchelor Chibougamau Mines Limited	Montreal	Mar. 1	5,000,000	$ 1.
Beaver Quarries Limited	Montreal	Nov. 6	10,000	$ 1.
Bilson Quebec Mines Limited	Quebec	Feb. 21	40,000	$ 1.
Bourget Mining Corporation	Montreal	Feb. 26	100,000	$ 1.
Brique Champlain Inc.	Quebec	Mar. 26	490	$100.
Briqueterie St-Tite Inc. (La	St-Tite	Sept.18	3,000	$100.
			(a) 2,000	$100.

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
California Standard Co. Ltd., (The	Montreal	June 6	500	None
Canadian Cut Stone Works Co. Limited	Montreal	July 4	400	$100.
Canadore Mining and Development Corporation	Montreal	May 7	5,000,000	$ 1.
Cape Mining Corporation Ltd..	Quebec	Jan. 31	1,000,000	$ 1.
Cape Smith Quebec Mines Ltd..	Quebec	Feb. 20	40,000	$ 1.
Caprive Oil and Gas Co. Ltd..	Montreal	Apr. 17	6,000,000	$ 1.
Carrière de Trois-Pistoles Inc.	Trois-Pistoles	Aug. 8	800 (a) 200	$100. $100.
Carrières Normont Ltée. (Les	Pont Viau	Nov. 25	5,000	$100.
Carrières - St-Laurent - Quarries Inc.	Quebec	Mar. 11	2,510"A" 5,000"B" (a)10,000	$ 10. $ 10. $ 10.
Central Bachelor Mines Corp..	Montreal	Jan. 17	5,000,000	$ 1.
Central Metal Mines Ltd.	Montreal	July 26	5,000,000	$ 1.
Champlain Mining Corp.	Montreal	Mar. 22	200,000	$ 10.
Chatelain Quebec Mines Ltd...	Quebec	May 27	40,000	$ 1.
Chibougamau Pioneer Mining Corporation	Montreal	Oct. 18	4,000,000	$ 1.
Chukotat Quebec Mines Ltd. ..	Montreal	Jan. 4	40,000	$ 1.
Commonwealth Mining Corp. ...	Montreal	Aug. 15	5,000,000	$ 1.
Compagnie Minière de l'Ungava Limitée (La	Montreal	Apr. 2	5,000,000	$ 1.50
Conasco-Ungava Mines Limited	Montreal	Feb. 19	100,000	$ 1.
Congava Mines Limited	Montreal	Feb. 25	500,000	$ 1.
Consolidated Exploration and Mining Company Limited	Montreal	Sept.20	10,000,000	$ 1.
Continental Nickel Corp.	Montreal	Mar. 5	5,000,000	$ 1.
Crater Quebec Mines Limited	Quebec	Feb. 20	40,000	$ 1.
Cross-Canada Explorations Ltd	Rouyn	May 22	5,000,000	$ 1.
Crystal Lake Mines Limited ..	Montreal	Feb. 13	4,000,000	$ 1.
Dalmet Limited	Trois-Rivières	Aug. 2	10,000	$ 10.
Dulac Chibougamau Mines Ltd..	Montreal	Feb. 6	5,000,000	$ 1.
Duncan Range Iron Mines Ltd..	Quebec	Jan. 4	40,000	$ 1.

(a) Preferred shares

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Eastern Oil Well Cementing and Testing Limited	Montreal	June 6	(a)19,000	$ 1.
			1,000	$ 1.
Ekwan River Mines Limited ...	Montreal	Feb. 2	5,000,000	$ 1.
Ememco Exploration Limited ..	Montreal	Mar. 21	5,000,000	$ 1.
Esker Quebec Mines Limited ..	Montreal	Jan. 4	40,000	$ 1.
Explorations St-Laurent Ltée (Les	Montreal	Mar. 8	5,000,000	$ 1.
Fontbrune Nickel Mines Ltd. .	Montreal	Apr. 3	5,000,000	$ 1.
Gaspe Exploration and Mining Company Limited	Quebec	Feb. 12	5,000,000	$ 1.
Ghislau Mining Corporation Limited	Montreal	Jan. 17	5,000,000	$ 1.
Gibson Mines Limited	Montreal	Nov. 8	5,000,000	$ 1.
Gill Mining Corporation	Montreal	June 28	5,000,000	$ 1.
Glengava Mines Limited	Montreal	Apr. 25	5,000,000	$ 1.
Glenharbour Mines Limited ...	Montreal	Apr. 25	5,000,000	$ 1.
Glenview Mining Corporation .	Montreal	June 13	5,000,000	$ 1.
Goyette Diamond Drilling Co. Ltd.	Val d'Or	May 27	750	$100.
Grandchamp Quebec Mining and Exploration Company Limited	Quebec	Apr. 10	40,000	$ 1.
Granoc Mines Limited	Montreal	Feb. 22	3,000,000	$ 1.
Great Whale Iron Mines Ltd.	Montreal	Sept.23	5,000,000	$ 1.
Grenville Mining Limited	Montreal	Jan. 22	40,000	$ 1.
Hilton Mines Limited	Montreal	Apr. 17	400	$100.
Hochelaga Quebec Mines Ltd...	Quebec	Jan. 4	40,000	$ 1.
Hubert Lake Quebec Mines Ltd.	Quebec	Feb. 20	40,000	$ 1.
Hubert Lake Ungava Nickel Mines Limited	Quebec	May 27	5,000,000	$ 1.
Hull Iron Mines Limited	Montreal	Sept. 7	3,000,000	$ 1.
Hunch Quebec Exploration Ltd.	Quebec	Feb. 27	40,000	$ 1.
International Manganese Corporation	Montreal	Mar. 19	100	$100.
International Metal and Petroleum Corporation	Montreal	Oct. 16	10,000,000	$ 1.
Inter Ocean Exploration Corporation of Canada Limited ..	Montreal	Apr. 17	4,000,000	$ 1.
Jubilee Iron Corporation	Montreal	Sept.16	5,000,000	$ 1.
Juet Lake Quebec Mines Ltd...	Quebec	May 27	40,000	$ 1.

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Keewa Quebec Mines Limited	Quebec	Feb. 20	40,000	$ 1.
Kennco Explorations (Quebec) Limited	Quebec	Feb. 21	40,000	$ 1.
Kennco Explorations (Ungava) Limited	Quebec	Feb. 21	40,000	$ 1.
Kingwa Quebec Mines Limited	Quebec	Jan. 4	40,000	$ 1.
Konkay (Quebec) Explorations Limited	Quebec	Feb. 22	40,000	$ 1.
Korak Quebec Mines Limited	Quebec	Jan. 4	40,000	$ 1.
Kovik Quebec Mines Limited	Quebec	Jan. 4	40,000	$ 1.
Kyak Quebec Mines Limited	Quebec	Jan. 4	40,000	$ 1.
Lake Otter Uranium Mines Ltd.	Montreal	Apr. 10	5,000,000	$ 1.
Lake St. Joseph Iron Ltd. ..	Montreal	Feb. 1	10,000,000	$ 1.
Lanoraie Gas and Oil Development Inc.	Montreal	Sept. 13	10,000	$ 1.
Lanoraie Petroleum (Quebec) Company Ltd.	Montreal	Jan. 28	20,000	$ 1.
Larch River Iron Mines (Quebec) Limited	Quebec	Dec. 14	40,000	$ 1.
Lemoyne Rim Mines Quebec Limited	Quebec	Jan. 4	40,000	$ 1.
Lempira Mines Limited	Montreal	May 6	4,000,000	$ 1.
Louiseville Gas and Oil Ltd.	Montreal	May 11	5,000,000	$ 1.
Lower Canada Nickel Corp. ..	Montreal	Feb. 1	5,000,000	$ 1.
Madawaska Mining Co. Ltd. ..	Montreal	Feb. 13	5,000,000	$ 1.
Magnetic Explorations Ltd...	Quebec	June 3	5,000,000	$ 1.
Marchant Mining Company Ltd.	Quebec	Feb. 6	5,000,000	$ 1.
Martel Minerals Co. Ltd. ...	Montreal	Jan. 18	40,000	$ 1.
Mégantic Mining Corporation	Montreal	Sept. 13	5,000,000	$ 1.
Milado Mines Ltd.	Montreal	July 22	5,000,000	$ 1.
Mincorp. Ltd.	Montreal	Feb. 21	2,500	$ 10.
Mine Oiseau Limitée (La ...	Quebec	Apr. 18	40,000	$ 1.
Mine Ungava Gerido Ltd. (La	Quebec	July 5	10,000,000	$ 1.
Mineral Management Limited	Montreal	Dec. 30	2,000	$ 1.
			(a) 8,000	$ 1.
Minéraux Laurentiens Limitée (Les	St-Joseph	Jan. 24	3,000,000	$ 1.
Monor Mining Co. Ltd.	Montreal	Sept. 24	5,000,000	$ 1.
Montroy Exploration Corporation Limited	Montreal	Feb. 13	5,000,000	$ 1.

Company	Head Office	Date of Incon-poration	Number of Shares	Par Value
Morono Copper Mines Ltd.	Rouyn	Sept. 12	5,000,000	$ 1.
Murray Mining Corp. Ltd.	Quebec	Apr. 2	5,000,000	$ 1.
Nantais Quebec Mines Ltd. ...	Quebec	May 27	40,000	$ 1.
New Quebec Mining and Exploration Limited	Montreal	Feb. 6	5,000,000	$ 1.
New Quebec Nickel Mines Ltd..	Quebec	June 14	5,000,000	$ 1.
New Rouyn Merger Quebec Exploration Limited	Quebec	Feb. 27	40,000	$ 1.
Nickel Rim Exploration and Development (Quebec) Ltd...	Montreal	Mar. 14	100,000	$ 1.
Nicobi Lake Mines Limited ...	Duparquet	Dec. 13	5,000,000	$ 1.
Nikor Mines Ltd.	Montreal	Apr. 25	100	None
Nituk Quebec Mines Limited ..	Quebec	Jan. 4	40,000	$ 1.
Normandie Exploration and Mining Company Limited	Montreal	Feb. 19	100,000	$ 1.
Northcote Mining Co. Ltd. ...	Montreal	Mar. 1	8,000	$ 5.
Northeast Ungava Mining and Exploration Limited	Montreal	Feb. 21	5,000,000	$ 1.
North Gaspe Mines Limited ...	Montreal	Aug. 28	5,000,000	$ 1.
Northern Exploration Limited	Montreal	May 25	5,000,000	$ 1.
North Rand Explorations Ltd..	Montreal	Apr. 4	40,000	$ 1.
North Star Nickel Mines Ltd..	Ville St-Pierre	Feb. 21	400	$100.
Norvex Mining Company Ltd. ..	Montreal	Apr. 17	4,000,000	$ 1.
Nuvilik Quebec Mines Ltd. ...	Quebec	Jan. 4	40,000	$ 1.
Oditan Mines Limited	Quebec	Aug. 21	5,000,000	$ 1.
Olivier Iron and Steel Corporation Limited	Montreal	June 12	5,000,000	$ 1.
Paint Hill Explorations Inc..	Quebec	Aug. 5	40,000	$ 1.
Parent Carrières et Pavages Inc.	Quebec	Feb. 19	3,000,000	$ 1.
Parlo Quebec Mines Limited ..	Quebec	Jan. 4	40,000	$ 1.
Pavages Maska Inc.	St-Dominique	May 17	8,000"A"	None
			10,000"B"	$ 10.
			(a)10,000	$ 10.
Payne River Nickel Mines Ltd.	Quebec	Mar. 15	40,000	$ 1.
Pecton Quebec Mines Limited	Quebec	Feb. 20	40,000	$ 1.
Peg-Mass Mining Exploration Co. Ltd.	Val d'Or	Mar. 12	50,000	$ 1.
Peninsula Metals Corporation	Montreal	Aug. 27	3,000,000	$ 1.

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Perron Metals Corporation ...	Montreal	Feb. 18	4,000,000	$ 1.
Pierre Demers et Frères Ltée.	Ste-Thérèse	Apr. 12	200	$100.
Pima Mines Limited	Montreal	June 25	100,000	$ 1.
Povung Mines Limited	Quebec	Jan. 4	40,000	$ 1.
Powerful Gas and Oil Corp. ..	Louiseville	Apr. 26	20,000	$ 1.
Prosper Exploration Ltd.	Montreal	July 3	5,000,000	$ 1.
Quebec Base Metals Exploration Limited	Montreal	Mar. 19	5,000,000	$ 1.
Quebec Cabanga Nickel Corp. .	Montreal	Feb. 9	5,000,000	$ 1.
Quebec Cartier Mining Co. ..	Ville Mont-Royal	Jan. 26	100,000	$100.
Quebec Explorers Corp. Ltd...	Montreal	June 11	3,000,000	$ 1.
Quebec Iron and Titanium Corp.	Tracy	Sept. 12	300,000	None
Raglan Quebec Mines Limited .	Quebec	Jan. 4	40,000	$ 1.
Regal Brick Inc.	Mistassini	Oct. 4	999,000	
Rivermede Exploration Ltd. ..	Montreal	Apr. 13	4,000,000	$ 1.
R.M. Nickel Mines Limited ...	Montreal	Nov. 5	5,000,000	$ 1.
Roberval Mining Corporation .	Montreal	July 16	6,000,000	$ 1.
Rosario Explorations Ltd. ...	Montreal	Nov. 13	50,000	$ 1.
St. Clair Gas and Oil Co. Ltd	Montreal	Mar. 13	5,000,000	$ 1.
Sabre Oil and Exploration Limited	Montreal	Feb. 14	5,000,000	$ 1.
Saguenay Exploration and Mining Inc.	Montreal	Dec. 20	5,000,000	$ 1.
Saint-Peter Mining and Exploration Limited	Montreal	Mar. 13	3,000,000	$ 1.
Salaberry Mining Corporation	Montreal	Feb. 26	100,000	$ 1.
Science Search (Quebec) Ltd..	Montreal	Oct. 29	10,000	$ 10.
Seaway Gas and Oil Limited ..	Montreal	Apr. 2	5,000,000	$ 1.
Shawinigan Mining and Smelting Corporation Limited ...	Montreal	June 11	3,000,000	$ 1.
Shickshocks Mining and Exploration Inc.	Montreal	Aug. 22	3,000,000	$ 1.
Simone Iron Corporation	Montreal	Sept. 16	5,000,000	$ 1.
Sleeping Giant Mines Limited.	Montreal	July 22	4,000,000	$ 1.
Snowdon Mining and Explorations Limited	Montreal	Dec. 13	5,000,000	$ 1.
Société Industrielle de Matane (La	Matane	Feb. 18	750 (a) 250	$100. $100.
Stupart Quebec Mines Limited.	Quebec	Jan. 4	40,000	$ 1.
Sugluk Quebec Mines Limited .	Quebec	Jan. 4	40,000	$ 1.

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Tamara Mining Limited	Montreal	May 1	5,000,000	$ 1.
Tazin Mines Quebec Limited ..	Montreal	Jan. 8	40,000	$ 1.
Templeton Development Corp...	Montreal	Aug. 1	2,000,000	$ 1.
Théoret et Fils Inc. (A. ...	Grande-Ile	Apr. 4	4,000	$ 10.
Toro Mining Co. Ltd.	Montreal	Feb. 6	5,000,000	$ 1.
Trepan Mining Corp. Ltd.	Montreal	May 24	5,000,000	$ 1.
Triune Mines Limited	Montreal	Feb. 25	40,000	$ 1.
Ungava Iron Ores Company	Montreal	Jan. 7	4,000	$ 10.
Ungava Mining and Exploration Limited	Montreal	Apr. 29	3,000,000	$ 1.
Ungava Nickel Mines Limited .	Quebec	Mar. 15	40,000	$ 1.
Valmont Mining Exploration Limited	Montreal	Nov. 11	4,000,000	$ 1.
Vanasse Quebec Mines Ltd. ...	Quebec	Jan. 4	40,000	$ 1.
Vernon Minerals Limited	Quebec	Mar. 19	250	$100.
Wakeham Bay Mines Ltd.	Montreal	May 1	3,000,000	$ 1.
Wales Quebec Mining Corporation Limited	Quebec	Feb. 21	40,000	$ 1.
West Ungava Mines Limited ...	Montreal	Apr. 25	5,000,000	$ 1.
Yukon-Ungava Mines Limited ..	Montreal	Feb. 25	40,000	$ 1.

MINING COMPANIES INCORPORATED BY ONTARIO CHARTER IN 1957

HOLDING MINING RIGHTS IN QUEBEC

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Consolidated Frederick Mines Limited	Toronto	Aug. 26	6,000,000	None
Delahey Consolidated Nickel Mines Limited	Toronto	Apr. 10	5,000,000	None
Foreign Exploration Corporation Limited	Toronto	Aug. 9	(a) 3,600	$ 10.
			4,000	$ 1.
Hampshire Nickel Mines Ltd. .	Toronto	July 9	4,000,000	$ 1.
Jilbie Mining Company Limited	Toronto	Feb. 27	5,000,000	$ 1.
LaCorne Mines 1957 Limited ..	Toronto	May 7	3,000,000	$ 1.
Mount Wright Iron Mines Ltd..	Toronto	June 10	5,000,000	$ 1.

(a) Preferred shares.

Company	Head Office	Date of Incorporation	Number of Shares	Par Value
Offshore Gas and Oil Corporation Limited	Toronto	May 8	(a)50,000	$ 10.
			1,000	$ .20
Ranworth Explorations Ltd. .	Toronto	Nov. 4	(a)20,000	$ 5.
			20,000	None
Sporran Mines Limited	Toronto	May 13	3,000,000	$ 1.
Wexford Mines Limited	Toronto	Nov. 12	5,000,000	$ 1.

GEOLOGICAL BRANCHES

During the 1957-58 fiscal year, I.W. Jones, Chief of the Geological Surveys Branch, was given the overall supervision of both that Branch and the Mineral Deposits Branch, as well as of a Branch that is being formed to deal with matters pertaining to petroleum, natural gas, and water-supply problems. These three Branches, respectively, are under the immediate direction of H.W. McGerrigle, J.-E. Gilbert, and Roland DeBlois, whose separate reports on the activities of the three Branches ensue.

In addition to his administrative and supervisory duties, Dr. Jones represented the Department of Mines at the Sixth Commonwealth Mining and Metallurgical Congress. This scientific conference, with several hundred delegates present from 35 different countries, held meetings and visited the mining fields across the entire Dominion, opening in Vancouver, B.C., on September 9, and closing in Halifax, N.S., on October 9, 1957.

GEOLOGICAL SURVEYS BRANCH

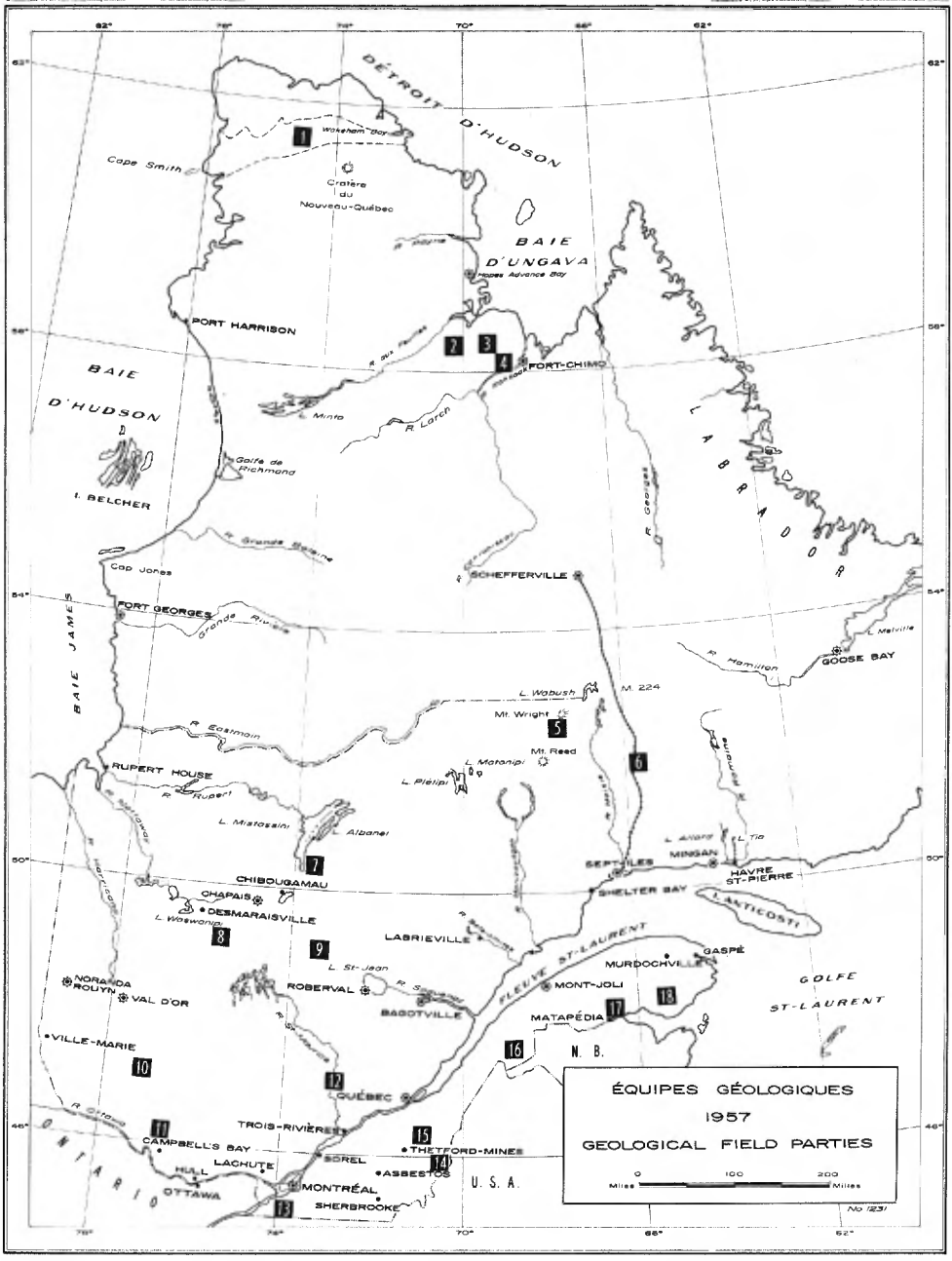
H.W. McGerrigle, acting chief of this Branch, reports as follows on the activities of the past fiscal year:

At March 31, 1958, the resident staff at Quebec City was comprised of ten geologists and six technical assistants, clerks and stenographers. During the fiscal year under review, one geologist resigned to join a private company, but three others entered the full-time service of the Branch in the fall of 1957.

MINISTÈRE DES MINES

PROVINCE OF QUEBEC

DEPARTMENT OF MINES



LIST OF GEOLOGICAL FIELD PARTIES - 1957

(Nos. refer to adjoining map)

1- Cape Smith-Wakeham Bay Belt, New Quebec	Robert Bergeron
2- Finger Lake Area (East Half), New Quebec	Jean Bérard
3- De Freneuse Lake Area (East Half), New Quebec ..	Pierre Sauvé
4- Gabriel Lake Area (West Half), New Quebec	Léopold Gélinas
5- Tuttle Lake Area, Saguenay Elect. Dist.	L.S. Phillips
6- Eric Lake Area, Saguenay Elect. Dist.	D.S. McPhee
7- McOuat-Gauvin Area, Mistassini Terr. and Roberval Electoral District	G.S. Sater
8- Marin-Picquet Area, Abitibi-East Elect. Dist. ..	J.H. Remick
9- Louvigny-Bochart Area, Roberval Elect. Dist. ...	Robert Bergeron and G.H. Beall
10- Beaumouchel-Houdet Area, Pontiac Elect. Dist. ..	A.-F. Laurin
11- Pontefract-Gillies Area, Pontiac Elect. Dist. ..	R.A. Kretz
12- Boucher-Carignan Area, Laviolette Elect. Dist. .	M.A. Klugman
13- Chateauguay Area (West Part), Beauharnois, Chateauguay and Huntingdon Elect. Dists.	T.H. Clark
14- Mégantic (East Half) and Armstrong Areas, Beauce and Frontenac Elect. Dists.	R.-A. Marleau
15- St. Joseph Area (West Half), Beauce and Dorchester Elect. Districts	Fernand Benoît
16- Cabano Area (West Half), Témiscouata Elect. Dist.	H.R. Greiner
17- Oak Bay Area, Bonaventure and Matapédia Electoral Districts	Jacques Béland
18- Honorat Area (West Half), Bonaventure Electoral District	W.B. Skidmore

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The Branch had another active year in carrying out its principal function, which is to investigate and map the geology of regions in different parts of the Province. In this work, the nature, distribution, structural relations, and economic mineral potentialities of the rock formations in various sections of the country are examined by qualified geologists who subsequently prepare geological reports and maps showing the results of their investigations. Such work in some instances has directly led to the location of mineral deposits of commercial value, and in others has indicated where further search was advisable. Furthermore, especially in new regions, the reports and maps serve as references and guides to those engaged in other activities - particularly road and railway builders, hydro-electric and forestry engineers, military forces, agronomists, and sportsmen.

The 1957 field programme of the Branch was one of the largest yet carried out. A total of 17 parties mapped the geology of 18 different areas in widely separated parts of the Province, compared to 21 parties in 1956. Five of these teams were led by geologists of the permanent staff; the other 12, by geologists on part-time employment, mainly those pursuing postgraduate research at various universities. In addition, the acting chief and one other geologist of the permanent staff were engaged in administrative and other duties. Moreover, one geologist on part-time employment supervised and aided in certain investigations in the southern part of the Province.

In addition to the 20 geologists whose duties have been outlined above, the 17 field parties collectively employed 17 other graduate geologists as senior assistants, 55 students as junior assistants, and 36 other men (generally engaged locally and for varying periods of time) as canoemen, packers, and cooks.

During 1957 about 3,625 square miles of territory was mapped geologically at a scale that will permit the publication of maps at one mile to the inch. This is a decrease of 955 square miles compared to the figures reached in 1956. However, one party mapped an additional area of some 1,500 square miles at a scale that will allow publication of maps at four miles to one inch.

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

Northern Ungava

Special Project

Robert Bergeron* carried out a broad reconnaissance survey of the Cape Smith-Wakeham Bay mineralized belt which extends across the entire northwestern nose of the Province, about 1,100 miles north of Montreal. The band stretches east-northeasterly for 235 miles from Cape Smith on Hudson Bay to Wakeham Bay on Hudson strait and ranges in width from a maximum of 60 miles at its western end to a minimum of 8 miles or so at its eastern terminus. In all, it covers some 6,000 square miles.

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* Indicates full-time, staff geologist.

Dr. Bergeron headed a party of four other geologists, seven student assistants, and four additional men in carrying out this investigation. During the limited time available on account of the short summer season, the party's efforts were directed mainly to locating the southern and northern boundaries of the belt; to mapping, at the scale of four miles to one inch, three north-south bands across the eastern, central, and western parts of the belt (some 1,500 square miles in all); and to a study of the country north of the central part of the belt.

Geologically, the belt is underlain by Late Precambrian sedimentary, volcanic, and intrusive rocks. The survey showed that interesting mineralization occurs at many places within the belt, and some nickel-copper zones of good grade have already been outlined by mining companies carrying out more detailed investigations in the region.

Jean Bérard mapped the east half of Finger Lake area, which covers 160 square miles between latitudes 58°15' and 58°30' and longitudes 70°00' and 70°15', about 70 miles northwest of Fort Chimo. Geologically, the area straddles the western contact of the Labrador geosyncline. A complex of Early Precambrian rocks is overlain unconformably by an assemblage of Late Precambrian sedimentary and volcanic rocks intruded by gabbro sills. Iron formations, containing up to 40 per cent iron, crop out at many places. Appreciable quantities of lead, zinc, and silver occur in some quartz and calcite veins in the western part of the area. Other mineralized zones rich in pyrite and pyrrhotite, with some copper, are found elsewhere.

Pierre Sauvé covered the east half of De Freneuse Lake area, comprising 160 square miles between latitudes 58°15' and 58°30' and longitudes 69°00' and 69°15', about 30 miles northwest of Fort Chimo. The map-area lies at the eastern border of the Labrador geosyncline and is underlain by rocks of Precambrian age.

Léopold Gélinas examined the west half of Gabriel Lake area, which covers 160 square miles between latitudes 58°00' and 58°15' and longitudes 68°45' and 69°00, about 15 miles west of Fort Chimo. The area lies at the eastern edge of the Labrador trough and is underlain by rocks of Precambrian age, some of which may represent a basement on which the sedimentary formations of the trough were laid down.

Electoral District of Saguenay

L.S. Phillips mapped the Tuttle Lake area, covering 180 square miles between latitudes 52°30' and 52°45' and longitudes 67°30' and 67°45', about 175 miles north-northwest of Sept-Iles and not far southwest of Mount Wright. In this district there are large deposits of concentrating-type iron ore, at present being developed by Quebec Cartier Mining Company, which plans building a new railroad into the region from Shelter Bay on the St. Lawrence, some 300 miles below Quebec City, as well as completing mining installations, a power development, dock facilities and townsites.

D.S. McPhee covered the Eric Lake area, which comprises 320 square miles bounded by latitudes 51°45' and 52°10' and longitudes 65°35' and 65°50'. The area straddles the Sept-Iles - Schefferville railway at a point some 140 miles northward from Sept-Iles. The area is underlain by Precambrian rocks of various types, mainly gneisses and granites.

Chibougamau Region (Electoral Districts of Abitibi-East and Roberval, Mistassini Territory)

Three parties carried out mapping assignments in this important region, which during recent years has been undergoing rapid mineral development. During 1957, the Barraute-Beattyville-Chibougamau line of the Canadian National Railways was completed, giving for the first time access by rail to the town of Chibougamau and its near-by producing mines. The new line also opens up for possible development of its natural resources an extensive tract of country extending from the settled Western Quebec Mining Belt northeastward for some 200 miles to Mistassini lake.

G.S. Sater mapped the McOuat-Gauvin area, bounded by latitudes 50°15' and 50°30' and longitudes 73°30' and 73°45', and covering 190 square miles in McOuat, Gauvin, Joybert, and Bonne township about 50 miles northeast of Chibougamau. Geologically, the area lies at the southern end of the Mistassini basin and straddles a fault contact between dolomitic sedimentary rocks of the Mistassini series and gneissic rocks of the Grenville sub-province. Minerals of lead, zinc, and copper were found in small amount within the area.

J.H. Remick examined the Marin-Picquet area, between latitudes 49°09' and 49°30' and longitudes 75°30' and 75°45', about 70

miles southwest of Chibougamau. The map-area covers 270 square miles of Abitibi-East electoral district, including parts of Marin, Picquet, La Ronde, Du Guesclin, Royal, Belmont and Urban townships. The rocks underlying the area are Precambrian, predominantly granites and granitic gneisses. Scattered mineralization, mainly pyrite, occurs at a number of places.

Robert Bergeron* and G.H. Beall, prior to and following mapping in the northern part of New Quebec, covered the Louvigny-Bochart area, between latitudes 49°00' and 49°15' and longitudes 73°15' and 73°30'. The map-area straddles the St. Félicien-Chibougamau highway about 55 miles northwest of St. Félicien. It covers 195 square miles of Roberval electoral district, including parts of Bochart, Louvigny, D'Esglis, Mornay, Argenson and Ailleboust townships. The area is underlain mainly by Precambrian gneisses of various types, although veins, dykes and lenses of pegmatite are common.

Electoral District of Pontiac

A.-F. Laurin* mapped the Beaumouchel-Houdet area, between latitudes 47°00' and 47°15' and longitudes 77°00' and 77°15', about 130 miles northwest of Hull. The map-area covers 205 square miles of Pontiac electoral district, including all of Houdet township and parts of Beaumouchel, Horan, Ryan, Lorraine, Gaillard and Doutreleau townships. Most of the area is underlain by Precambrian gneisses of various types. During the fall and winter of 1956-57, following the discovery of disseminated magnetite within the area, considerable claim staking was carried out. During the summer of 1957, one company did a moderate amount of development work, including diamond-drilling, on five separate magnetic zones, but no commercial tonnage of ore has yet been proved.

R.A. Kretz mapped the Pontefract-Gillies area, between latitudes 46°00' and 46°15' and longitudes 76°30' and 76°45', about 65 miles northwest of Hull. The area covers 210 square miles, and includes parts of Pontefract, Gillies, Normandie, Bourgogne and Huddersfield townships. Gneisses of Grenville aspect are the predominant rocks of the area, but these have been widely intruded by granite and other igneous rocks. Radioactive minerals occur in one prospect in the southeastern part of the area.

Electoral District of Laviolette

M.A. Klugman mapped the Boucher-Carignan area, between

latitudes 47°00' and 47°15' and longitudes 72°45' and 73°00'. The map-area covers 205 square miles straddling St. Maurice river some 25 miles south of La Tuque. It includes parts of Boucher, Carignan, Polette, Turcotte, Baril and Mékinac townships and Batiscan seigniory. The underlying rocks are mainly gneisses of Grenville aspect that have been intruded by granites and other igneous rocks. Disseminated magnetite and pyrite occur in many of the rocks of the map-area.

St. Lawrence Lowlands

T.H. Clark continued his investigations of the St. Lawrence Lowlands. In 1957 he covered 70 square miles to complete the mapping of the west half of Chateauguay area, bounded by latitudes 45°00' and 45°15' and longitudes 73°45' and 74°00'. The map-area is underlain by flat-lying, Early Palaeozoic, sedimentary formations. Deposits of silica sand (Potsdam) and of building stone (Beauharnois) are present.

Eastern Townships

R.-A. Marleau mapped the east-half of Mégantic area, between latitudes 45°30' and 45°45' and longitude 70°45' east to the International boundary, and the Armstrong area, between latitudes 45°40' and 46°00' and longitude 70°30' east to the International boundary. The area mapped lies about 80 miles southeast of Quebec City and covers 340 square miles in Beauce and Frontenac electoral districts. Altered sedimentary and volcanic formations of Palaeozoic age are the predominant underlying rocks. The presence of scheelite, an ore of tungsten, in certain porphyry dykes of the region has been known since before the turn of the century.

Fernand Benoît* examined the west half of St. Joseph area between latitudes 46°15' and 46°30' and longitudes 70°45 and 71°00', about 35 miles southeast of Quebec City. In addition, he completed and revised the mapping done by him during 1956 in St. Sylvestre area to the west. In 1957 he covered 290 square miles in all, chiefly within the electoral districts of Beauce and Dorchester. The area mapped is underlain mainly by a variety of metamorphosed sedimentary rocks of Early Palaeozoic age, which in places have been intruded by masses of igneous rock, including serpentinite. Several companies have worked some of the serpentine bodies for asbestos. New development work has recently been carried out on the old Harvey Hill mine, from which copper was extracted some hundred years ago, and there are other old workings that used to produce this mineral.

Electoral District of Témiscouata

H.R. Greiner mapped the west half of Cabano area, between latitudes 47°30' and 47°45' and longitudes 68°45' and 69°00'. The map-area is about 125 miles east-northeast of Quebec City and covers 200 square miles of Témiscouata electoral district, including parts of Cabano and Packington townships and of Madawaska seigniory. The area is underlain almost entirely by folded and metamorphosed Palaeozoic sedimentary rocks. A small mass of ultrabasic intrusive rock, in places greatly serpentinized, contains considerable asbestos in fibres averaging one-sixteenth inch in length.

Gaspé Peninsula

Jacques Béland* mapped the Oak Bay area in the southwest corner of Gaspé peninsula at the head of Chaleurs bay, just north of Matapédia. The map-area extends from latitude 48°15' southward to Chaleurs bay and Matapédia and Ristigouche rivers, between longitudes 66°30' and 67°00'. It includes all of Mann township and parts of Ristigouche, Nouvelle, Fauvel and Vallée townships in Bonaventure electoral district, as well as part of Assemetquagan township in Matapédia electoral district. The map-area is underlain by more of less metamorphosed, folded, Palaeozoic sedimentary and volcanic rocks ranging in age from Ordovician to Devonian, but some sills and dykes of intrusive rock also occur. In Mann township there is a prospect containing lead, zinc, uranium, molybdenum and silver. The showing has been known since 1912 and development work on it has been carried out intermittently for the past 30 years or so. In Ristigouche township a small copper showing has been prospected at intervals since 1955. These and other minerals have been found in small amount elsewhere in the area.

W.B. Skidmore* mapped the west half of Honorat area, between latitudes 48°15' and 48°30' and longitudes 65°15' and 65°30'. The map-area covers 200 square miles in the southeastern part of Gaspé peninsula, about 25 miles north of New Carlisle. It includes large parts of Honorat, Garin, Reboul and Guéguen townships, as well as small portions of Robidoux and Weir, all within Bonaventure electoral district. The area is underlain mainly by slightly metamorphosed, folded sedimentary and volcanic strata, mostly of Ordovician and Silurian age. Some of the conglomerates, sandstones and limestones of the area might be adequate reservoir rocks for the accumulation of petroleum, although no suitable structural trap was located.

Other Work

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. He also reviewed certain of the geological reports and maps.

Dr. Osborne also organized and conducted through the Appalachian region south and southeast of Quebec City a special five-day (Aug. 14 to 18) field trip for Quebec and American geologists particularly interested in the district. The purpose of this tour was to effect a better correlation of the geology being done by the various workers in Quebec, Maine, New Hampshire and Vermont. Some 20 prominent United States geologists took part. In addition to Dr. Osborne, the Department of Mines was represented by Drs. Jacques Béland and P.-E. Grenier and Messrs. F. Benoît and R.-A. Marleau, all of whom have had considerable geological experience in the region. The results to date have been very gratifying. Many of the American geologists had high praise for the work done by the Quebec government geologists in the mapping programme being carried out in the Appalachian sub-province.

M.M. Ritchie* reviewed and edited certain of the geological reports and maps for publication, and assisted the acting chief of the Branch in administration of the Branch.

Some of the Branch's geologists rendered assistance to the Mineral Deposits Branch by examining and reporting on various mineral occurrences, showings and prospects in different parts of the Province.

Geologists of the Branch represented the Department of Mines and presented papers at meetings of geological, engineering, prospecting and other scientific organizations. Some of these contributions, as well as other articles, have been published in a variety of scientific journals.

Throughout the year many geologists, engineers and others interested in the mining industry visited the Branch's offices at 31 d'Auteuil St. in Quebec City. From the staff they were able to obtain much information concerning the geology of many different parts of the Province. In addition, many inquiries and requests for information were answered by correspondence.

MINERAL DEPOSITS BRANCH

J.-E. Gilbert, acting chief of this Branch, submits the following report on its activities during the fiscal year 1957-58.

At the end of March 1958, the full-time professional personnel of the Mineral Deposits Branch consisted of 12 geologists and mining engineers. This personnel was assisted by 32 technical assistants, clerks, draughtsmen and stenographers. The permanent staff of the Branch was increased during the year following the moving of the Branch into more spacious quarters on des Glacis street, the undertaking of various new projects of classification of documents and of compilation of technical information, and the opening of a new office in the town of Chibougamau. Three graduate geologists and one mining engineer joined the Branch during the fiscal year.

The main responsibility of the Mineral Deposits Branch is to carry out detailed geological investigations of mineral occurrences, mining properties and mining districts with a view to furthering, in close co-operation with its own technicians, the development of the mineral industry in the Province. To facilitate the accomplishment of such a purpose, five graduate geologists are in charge of resident geologists' offices in the Chibougamau, Quebec, Montreal, Rouyn and Val-d'Or districts; a mining engineer and a geologist specialized in industrial minerals technology are stationed in Quebec. Moreover, five geologists on part-time employment were engaged during the summer of 1957 in detailed geological mapping of economically important mineral-bearing areas. The value and importance of the technical advice given by these geologists and engineers to prospectors, engineers and geologists engaged in the exploration and development of the mineral resources of the Province cannot be too strongly stressed.

The Mineral Deposits Branch is also responsible for the study of prospectuses and reports as officially requested; the acceptance of reports, plans and diamond-drill logs submitted for credit towards statutory assessment work; the study of reports submitted in support of applications for mining concessions; and property examinations in connection with revocation of mining rights.

The Division of Technical Documents of the Department also comes under the jurisdiction of the Chief of the Mineral Deposits Branch, and the description of its functions and of its activities during the fiscal year 1957-58 are described below under a separate

sub-heading. The Departmental Library is likewise under his administration and the report on its activities is given separately on page 65.

The 1957 field programme of the Branch consisted of 13 different projects including geological mapping, mining property examinations and special studies. Seven of these were undertaken by permanent members of the staff and five were under the direction of part-time geologists, mainly post-graduate students doing research work at various universities. In addition, one engineer on part-time employment helped in the editing of reports and the acting chief was engaged in administrative and other duties. The field programme provided employment, in addition to the geologists and engineers whose work is mentioned above, to two graduate geologists and 14 students who acted as geological assistants and to four other men employed as cooks or canoemen.

G.M. Archibald studied the geology and reported on the work done on 58 mining properties under exploration and development in the Chibougamau district. This is part of the regular programme of mining property examination carried out by the Department throughout the various districts of the Province.

J.R. Assad, in November, 1957, took over the position of resident geologist for the Chibougamau district, organized the new office in that town and worked on a compilation of the available geological information related to his district.

S.H. Behr completed the mapping at 1,000 feet to the inch of the southern part of Duprat township, thus finishing the project initiated in 1955 and 1956 by Dr. J. Dugas and W.B. Emo.

P.-E. Bourret, senior mining engineer in charge of industrial minerals technology, was loaned to the Division of Mineral Statistics for the greater part of the year to take charge of this Division during the absence, on account of illness, of its chief, Mr. C.-O. Beaudet. During the year, Mr. Bourret visited 121 properties both in the production and development stages collecting information and giving advice to prospectors, developers and mine operators concerning the development of their deposits, their mining or ore dressing problems, as well as the marketing of their products.

W.G. Brown mapped at 1,000 feet to the inch the northeast quarter of Fiedmont township, Barraute area, in which potentially important base and precious metal deposits occur.

André Deland, who was transferred early in the fiscal year from the Geological Surveys Branch to the post of resident geologist at Montreal, visited 31 mining properties in his district. He also made various compilations of the geology of his district.

H. de Römer continued the detailed geological mapping commenced in 1956 in the vicinity of the Quebec Copper Corporation mining property and covered a 22-square-mile area comprising parts of Bolton, Stukely and Orford townships in the electoral districts of Brome, Shefford and Sherbrooke.

Jean Dugas, resident geologist at Rouyn, visited 25 mining properties in his district and completed the compilation map at 1,000 feet to the inch of the northwest quarter of Duprat township. He also carried out various geological studies in his district.

E.-H. Gaucher continued the programme of detailed geological mapping previously undertaken in the Chibougamau district and covered, at 500 feet to the inch, the southeast quarter of Roy township.

P.-E. Grenier, resident geologist for the district south of the St. Lawrence, visited 47 mining properties in his district and north of the St. Lawrence river. He also completed by correspondence with the University of Toronto a course in Applied Geophysics that he had started through a one-month stay at the university at the end of the previous fiscal year. Finally, he carried out various geological compilations and studies in his district.

Maurice Latulippe, resident geologist for the Val-d'Or district, visited 27 mining properties in his district and completed the compilation maps at 1,000 feet to the inch of the northwest quarter of Barraute township, the north half of Landrienne and of the northeast quarter of Figuery township.

John I. McGerrigle, who joined the Branch as junior resident geologist at the Montreal office in November 1957, visited three mining properties in his district and undertook a series of compilations on the various mineral occurrences in the Montreal district.

Raymond Paquet, who was transferred from the Laboratories Branch in October 1957, to be assistant to Mr. Bourret in the industrial minerals technology, examined three properties in early stages of

development and organized the annual series of lectures given to prospectors by officers of the Branch in various localities throughout the Province. Mr. Paquet also reorganized the permanent mineral exhibits of the Department and has started a compilation of the nickel occurrences in the Province.

G.W. Waddington, mining engineer and part-time employee of the Branch, helped in the editing of six geological reports for the Branch and of a special report on the "Mineral Resources and Mineral Industries of the Province of Quebec" for the Sixth Commonwealth Mining and Metallurgical Congress.

J.-L. Pouliot, mining engineer, and his assistant, J. Boily, mining engineer, report that, during the year under review, 270 geophysical and 93 geological plans and reports and 321 diamond-drill logs were examined for credit towards statutory assessment work. In addition, 144 reports or prospectuses were studied upon request from the Quebec Securities Commission. Four reports submitted by engineers in support of applications for mining concessions were also examined. The following table, which gives the number of reports received annually by the Department since 1954, shows the decrease in mining exploration that took place in the Province during the fiscal year 1957-58.

TABLE VI - COMPARATIVE TABLE OF THE NUMBER OF REPORTS RECEIVED DURING THE YEARS 1954 TO 1958

Reports	1954	1955	1956	1957	1958
Geological	54	64	109	194	93
Geophysical	77	120	248	567	270
Diamond drilling	141	128	264	491	312
Company prospectuses	127	138	101	207	144
Mining concessions	2	3	13	3	4

To arouse greater interest in the search for economic minerals throughout the Province, a series of elementary lectures on general geology and prospecting was given in French or in English at nine different localities of the Province.

At each place, nine lectures were given, of which four were on identification of rocks and minerals. The lecturers were J.R. Assad, André Deland, P.-E. Grenier and Maurice Latulippe, all resident geologists of the Branch.

The following list gives the average attendance in each of the localities:

Buckingham	10	La Sarre	26
Garthby	3	Mont Laurier	26
Hébertville Station ..	16	Senneterre	22
Joliette	55	Sept-Iles	28
Lachute	40		

Special lectures on general and applied geology were also given by Dr. P.-E. Grenier at the summer camp of "Les Jeunes Naturalistes" at Port-au-Saumon, electoral district of Charlevoix.

Division of Technical Documents

The Division of Technical Documents is responsible for the safe-keeping of all technical data pertaining to mineral deposits and to development work done by operators, as well as to other information concerning the mineral industry of the Province. It also supplies prospectors, mine operators and others with technical information on these subjects.

François Baby, chief of this division, submits the following report on its activities:

a) Number of requests for information on mine operators .. 632
b) Number of requests for technical information concerning the mineral industry of the Province 304
c) Number of requests pertaining to mineral technology ... 116
d) Number of requests related to mining properties in the Province 465

During the period under review, a revision of the classification of the previously filed reports and plans pertaining to exploration and development work done in the Province was undertaken and about 1,200 such documents have already been re-classified. A new system of indexing documents on plans was also initiated and 63 townships and seigniories had been covered at the end of the fiscal year.

For the purpose of obtaining a collection as complete as possible of the publications prepared by mine operators for the benefit of their shareholders, requests were made to 664 operators that, directly or through subsidiary companies, hold mining rights in the Province.

There was a considerable increase in the number of documents received by the Division during the year under review; they comprise the following:

a) Documents pertaining to mining properties	(reports ...	980
	(plans	851
b) Mining company annual reports to shareholders		488
c) Reports of inspection by officers of the Department ..		208
d) Documents concerning mineral technology		138

With a view to a more adequate system of filing the documents pertaining to the technology and the economics of the minerals of the Province, a member of the Division was delegated to study the various filing systems used in other governmental agencies and in two faculties of Laval University. A project of reorganization of the present filing system is under way, which should be better suited to the future needs of the Division.

A complete revision was also made of the indexing of the newspaper clippings concerning the activities of the various mine operators throughout the Province and a great number of old clippings were added to the more recent ones that had been previously filed. The Division also initiated the compiling of monthly notes on the progress of the mining industry, which are distributed to the officers of the Department for their personal information.

The Division of Technical Documents also prepared during the fiscal year 1957-58 texts for 15 advertisements on the mineral industry of Quebec, which were published in newspapers and technical magazines.

PETROLEUM, GAS AND GROUND WATER BRANCH

Roland DeBlois, chief of this Branch, submits the following report of the services given by the Department on matters pertaining to petroleum, natural gas and ground water.

On March 31st, 1958, the personnel of this Quebec Branch numbered four engineer-geologists and two stenographers. Two of these engineer-geologists joined the Department during the year: Claude Grenier, at the beginning of May 1957, and Paul-P. Simard, at the end of November. Besides that, a geologist,employed on a temporary basis, applied himself to the work of correlating the geological formation of the St. Lawrence Lowlands and studied the samples obtained through the drilling for gas and petroleum. Finally, four special officers followed drilling operations for gas and petroleum at the various well sites.

Petroleum and natural gas

The main function of this division is to help companies and individuals drilling for petroleum and natural gas. This is done by studying drill cores or other samples to correlate the various geological formations encountered. Engineers measure the flow and pressure of every important gas occurrence. They follow closely the drilling operations and see that they are conducted according to the prescribed requirements. All the details of these drillings are noted on indexed cards. Thus, whatever data are needed on the drilling operations as a whole or on a specific operation can be readily obtained.

In 1957, the search for petroleum and natural gas reached record proportions. Thirteen companies drilled or deepened a total of 68 wells, representing 66,810 feet of drilling.

Roland DeBlois and Paul-P. Simard followed the drilling operations giving whatever technical aid was required. In addition, they examined samples from drilling operations and catalogued the data pertaining to all the operations.

T.H. Clark did a geological study of the samples obtained from most of the drilling operations conducted in the St. Lawrence Lowlands.

J.-L. Ducharme, L.-J. Duchesnay, A. Larose and S. Moderie, acted as special officers, following drilling operations at well sites and collecting data on natural gas occurrences in many localities.

Ground Water

This Division does ground water surveys and conducts experimental research. Its personnel consists of three engineer-geologists.

Its main function is to help municipalities, aqueduct operators and public institutions find adequate underground water supply, whether for new installations or existing ones that can no longer satisfy present needs owing to increase in population, lowering of the water-table, or like factors.

In order to give the required services, the personnel of this Division does the work in two steps:

a) a geological map of the area is compiled in order to find adequate water storing formations, with emphasis on the search for Pleistocene formations.

b) tests are conducted to ascertain the potential of the aquiferous formations.

Roland DeBlois, Raymond Roy and Claude Grenier have made 43 ground water surveys in the following electoral districts: Arthabaska, Beauce, Bellechasse, Chambly, Champlain, Charlevoix, Compton, Dorchester, Gaspé-South, Joliette, Kamouraska, Labelle, Lotbinière, Maskinongé, Matapédia, Mégantic, Portneuf, Québec, Rimouski, Roberval, Saguenay, St. Maurice, Stanstead, and Terrebonne.

It is with satisfaction that we acknowledge the collaboration offered during the winter months by the United States Geological Survey. The Ground Water Branch invited C. Grenier to its Washington Headquarters, in January 1958, and he received a four months' course at many stations in the Southern States. C. Grenier thus acquired an invaluable experience which will be most useful in his future work. Messrs. DeBlois and Roy had already received a similar training from the Ground Water Branch in 1951 and 1954 respectively.

LABORATORIES BRANCH

The Laboratories Branch comprises the following sections:

I - Laboratories for mineralogical and metallurgical research;

II - Laboratories for analysis and assays established at Quebec and Montreal;

III - Sampling and ore dressing plants at Quebec and Montreal;

IV - Elementary courses in prospecting given to university students.

The director of this Branch is Maurice Archambault and the senior officers are: P.-E. Pelletier, assistant-director, Henri Boileau, chief-chemist, Jean Girault, mineralogist and chief-petrographer, and Fernand Claisse, chief physicist.

I.- Research Laboratories

Mineralogical and metallurgical research work carried out during the course of the year was centered on: a) technical assistance to prospecting; b) chemical beneficiation of titanium ores; c) production of organic titanium derivatives, d) chemical extraction of columbium and rare earths; e) production of soil conditioners using our peat; f) extraction of manganese from our ores; g) increasing the market value of asbestos; h) perfecting an industrial process of extracting lithium from spodumene; i) production of mineral salts of lithium; j) use of ultrasonic vibrations in the flotation of ores; k) improvement in the fabrication of an industrial ceramic product; l) concentration of ores of copper, lead, zinc, gold, silver, iron, lithium, uranium, thorium, phosphorus, fluor, tungsten, rare earths, columbium, feldspar, mica, beryllium and paragonite.

Hereunder is a progress report on the research projects:

Project No. 8:- Claude Frémont continued his research on the perfecting of a magnetometer small enough to be lowered into a diamond-drill hole. In order to build a probe sensitive to the variations of the earth's magnetic field, he had to use a special technique to draw platinum and numetal wires down to five-thousandths of an inch in diameter, and to join them end to end with the help of an electronic apparatus of his own make and to wind a very small coil. On the other hand, the amplifier and oscillator circuits of the apparatus seem to be finally worked out.

Project No. 99:- Roger Brais has continued his research on the separation of iron and titanium in ilmenite. By using hydrochloric acid in a closed circuit, he succeeded in obtaining a salt of iron and a pure titanium oxide soluble in sulphuric acid. He also studied the economics of the process.

In collaboration with Lucien Gendron, Roger Brais studied the organic compounds of titanium. With magnesium, sodium and lithium organometallic compounds, they have obtained a series of acyclical and cyclical polytitanates.

Project No. 114:- M. Archambault and C.-A. Olivier have resumed a more fundamental study, in the laboratory, of treating spodumene so as to extract the lithium it contains. They have obtained interesting results which affect the development of the process.

Project No. 118:- The research undertaken by F. Claisse and F. East on a geological correlation has involved the study of many thousands of emission spectra. The final result of this work is expected to be known soon.

Project No. 122:- P.-E. Gagnon with the help of S. Zauhar and Y. Laflamme has continued his work on a complete chemical extraction of columbium, tantalum, titanium, rare earths and radioactive elements present in two concentrates of ore from the Oka region. They have prepared a bibliography containing 478 new references on original works done on columbium and its compounds, 361 new references on original works done on tantalum and its compounds, and finally references on 14 methods of extracting columbium. Experiments on such extraction, using organic solvants, are progressing and there is hope that interesting results will be obtained.

Project No. 123:- J. Risi and R. Cloutier in their research work on the possible usage of peat, either as a fertilizer or as a soil conditioner, have demonstrated that the organic components of the peat must first be extensively decomposed either by direct chemical oxidation or by the action of micro-organisms. Seeding with a parasitic mushroom of the hemicellulose would seem to give the best results.

Project No. 126:- J.U. MacEwan with the help of P.-H. Lemay has continued his research on the extraction of manganese from complex ores of iron. He specially studied the accuracy of the experimental methods.

Project No. 128:- L.-P. Bonneau has taken steps to obtain patent rights on an air separator to be used in the removal of dust from asbestos. This apparatus was evolved during the research work done in connection with projects Nos. 38 and 94. The application for the Canadian patent bears the inscription number 736,006, dated September 1957; the United States one bears the number 693,575 and is dated October 31st, 1957.

Project No. 129:- M. Archambault, J.U. MacEwan and C.-A. Olivier have continued their experiments on the treatment of spodumene

on a semi-industrial scale. The process has been markedly improved.

Project No. 130:- M. Archambault and F. Claisse have studied a few methods of transforming into a sulphide the lithium sulphate obtained by the process under investigation in Project No. 129. Results are encouraging.

Project No. 131:- H. Zaruba has investigated the use of ultrasonic vibrations in the flotation of ores. The vibrations of high frequency oscillating steel blades increase the agitation and the adhesive qualities of the flotation reagents without materially increasing the costs of operation.

Project No. 132:- M. Archambault and F. Claisse have investigated the exchange of monovalent ions for the lithium of the spodumene.

Project No. 134:- J.-P. Bolduc and Jean Girault have studied the up-pitting or superficial desagregation of a variety of brick, so as to improve this type of brick. They found that a finer grinding of the calcite, which constitutes the main raw material of this brick, would eliminate this defect completely.

The following projects on ore dressing were the object of special investigations conducted by B.J. Walsh, Jean Girault and J.-P. Bolduc.

Research on Ore Dressing

Project No.		
72	Lithium	Quebec Lithium Corp.
95	Lithium, Feldspar, Mica	Valor Lithium Mines Ltd.
97	Beryl, Feldspar, Mica	Massberyl Co. Ltd.
105	Uranium, Thorium, Apatite, Feldspar, Fluorine	Yates Uranium Mines Inc.
107	Tungsten	St. Roberts Metals Corp.
108	Columbium and Rare Earths	Molybdenum Corp. of America
112	Copper, Lead, Zinc, Gold and Silver	Vendome Mines Ltd.
117	Columbium and Rare Earths	Oka Rare Metals Mining Co. Ltd.
135	Lead, Tungsten, Pyrite, Silver	St. Roberts Metals Corp.
137	Paragonite	Dome Exploration Ltd.
138	Iron	Hull Iron Mines Ltd.

II.- Laboratories for Analyses and Assays

During the fiscal year, the laboratories for analyses and assays (Thetford Mines included) received 12,633 samples on which were performed 59,400 analyses and determinations. These figures include quantitative chemical and flame photometric analyses, determinations by microscope, spectrograph, X-rays (diffraction and fluorescence) and radioactivity measurements.

TABLE VII - SUMMARY OF ANALYSES AND ASSAYS

	Laboratories			Total
	Quebec	Montreal	Thetford Mines	
Samples received	11,167	1,448	22	12,637
Quantitative analyses	16,533	3,645	310	20,488
Semi-quantitative analyses	10,933	- -	-	10,933
Research analyses	5,737	- -	-	5,737
Mineralogical and petrographic determinations ..	17,672	- -	-	17,672
X-ray spectrographs	4,386	- -	-	4,386
Radioactivity determinations	184	- -	-	184
Total	55,445	3,645	310	59,400

The number of analyses and determinations is somewhat inferior to the one of the preceding year owing to a slow-down in mining activities.

Quebec Laboratories: -

The main laboratories of the Department are located at Quebec and, besides the mineralogical and metallurgical research divisions mentioned above, they include: 1.- a division of mineralogy and petrography; 2.- a division of physics; 3.- a division of chemistry; 4.- a division of metallurgy.

Division of Mineralogy and Petrography

During the fiscal year ending March 31st, 1958, 11,167 samples were submitted to our laboratories; (this number includes 408

samples of sands, gravels and stones to be used as paving materials and submitted by the Roads Department for identification). The study of these various samples required 17,672 mineralogical determinations. The mineralogists examined under the microscope 121 thin and polished sections of rocks and minerals. The division wrote 1,906 letters; 1,818 of these referred to the samples submitted. Most of them consisted in detailed reports on the nature and value of the samples. Finally, 689 persons received verbal answers to their queries.

It is the function of the mineralogists to forward to the proper laboratory the samples to be analysed, according to their nature and the work required.

The Department of Mines has engaged the services of Reverend Henry Desville, S. J., formerly chief of the Applied Petrography Department of the Université de Strasbourg, France. Reverend Desville assumed his post August 19th, 1957, replacing Raymond Paquet transferred to the division of Mineral Deposits on October 1st, 1957.

The preparation of rock and mineral samples used by schools and prospectors is the responsibility of the Division of Mineralogy and Petrography. These collections are in greater demand than ever and it seems that the production capacity of the Division is the only factor limiting their number. The acquisition of a stone splitter capable of exerting a 50-ton pressure has greatly increased the output of the Division. The following table shows that this year's production is far ahead of that of the past years.

TABLE VIII - ROCK AND MINERAL COLLECTIONS

Fiscal Year	1954-55	1955-56	1956-57	1957-58	Total
Mineral collections	665	792	851	1,000	3,308
Rock collections	602	400	451	600	2,053
Small fragments of minerals	310	350	500	512	1,672
Small fragments of rock ...	345	300	460	550	1,655
Total	1,922	1,842	2,262	2,662	8,688

Division of Physics

During the fiscal year 1957-58, the Division of Physics handled 20,580 analyses distributed as follows:

	nil
Spectrography and X-ray fluorescence ...	16,010
Radiocrystallography	4,386
Radioactivity	184

Of these, 3,213 were for research projects, and 71 were free silica determinations done for and at the request of the Department of Health. These figures are slightly higher than those of last year; there has been a 150 per cent increase in the number of research analyses.

The X-ray diffraction laboratory is now equipped with an ultra-modern diffractometer which allows better mineral identification specially in the field of clay minerals.

In the X-ray fluorescence laboratory, the fusion method originally developed for use when elements are present in medium- to high-concentrations is now employed for low-grade concentration. The possibility of using this technique for the analysis of the light elements is under study since accessory instruments have been acquired.

Division of Chemistry

A total of 17,190 quantitative analyses done in duplicate represents the sum of work done by this Division. Of these 2,705 were for precious metals, 4,818 were for research purposes, 25 were water analyses and 21 were complete precision geochemical analyses of rocks.

In addition, the Division co-operates in the search for more accurate and faster methods of analyses. The application of direct methods, specially for the silicates, represents a saving in time without loss of accuracy.

Division of Metallurgy

During the year, researchers have centered their efforts on obtaining precise semi-industrial data on the Department's process for the extraction of lithium from the concentrates and the ores of spodumene.

With the Dorr Fluosolids reactor, it has been shown that the decrepitation of spodumene could be done in a quick, accurate and economical way, and much better than with the method now in use.

On the other hand, the proof of the industrial value of the lithium extraction process has been completed experimentally by a rigid control of the conditions of temperature, pressure and addition of reagents in a twelve-foot rotary kiln. The Department has applied for a patent for this process.

In another field of investigation, a pyrometallurgical study of the iron ores of Hull Iron Mines Limited has been started.

III.- Sampling and Ore-dressing Plants

St. Malo Pilot Plant:

Acting upon a decision arrived at last year, the machinery of the Val-d'Or sampling and ore-dressing plant was moved to the Quebec Industrial Center into quarters more spacious and more suitable to the needs of the industry. Under one roof will be grouped the sampling and ore-dressing plants for both metallic and industrial minerals (asbestos included), the iron ores beneficiation plant, the Jefferey Hale pilot plant, the laboratories for the mechanical concentration of ore, a ceramic laboratory and a laboratory for the study of the physical properties of asbestos fibres.

The new pilot plant is located in a large brick building with a floor area of 48,720 square feet: 36,400 square feet of ground floor and 12,320 square feet on two lateral mezzanines running the length of the building. As it was formerly occupied by an industrial concern, the building is already equipped with electricity, water and sewer connections, heating and ventilation plants. The handling of large quantities of ore can be done through two railway spurs, one of which enters the building. A 25-ton travelling crane with an 80-foot span completes the equipment for the handling of heavy loads inside the building.

Presently, J.U. MacEwan, with the help of C. Craig, is supervising the renovation of the building and the installation of machinery. The floors have been levelled, two ore elevators are installed, special concrete bases poured to receive heavy equipment and plans have been prepared for the electric circuits and the erection of

a transformer sub-station. Special lighting, adapted to the needs of the plant, will be installed.

Once the installation is completed, the pilot-plant will be able to sample and treat simultaneously a few carloads of ore.

Thetford Mines Plant:

On May 29th, 1957, a fire in Thetford Mines partially destroyed the Department's plant and put it out of commission for the rest of the year. Plans are being drawn for the installation of a new plant where the classification of asbestos fibres will be done as in the past.

During its brief operating period this year, this laboratory received the following shipments for sampling and milling tests:

TABLE IX - SHIPMENTS OF ASBESTOS MINERALS FOR PURPOSES OF DRESSING AND CLASSIFICATION OF FIBRES

Shipper	Lots	Weight in Pounds
Asbestos Corp. Ltd.	16	1,576
Atomic Mining Corporation	1	54
Central Asbestos Co. Limited	2	262
Henri Jacques, Ascot Corners	1	142
Total	22	2,034

Included in the total weight of 2,034 pounds are 168 pounds of fibres submitted for standard classification; these fibres required 310 tests.

IV.- Elementary Courses on Mineral Prospecting

In the course of the year under review, 66 students followed the courses on Mineral Prospecting given at l'Ecole Polytechnique of Montreal, from March 26th to May 6th, 1957, and at the Department of Geology of the Faculty of Sciences, Laval University, from March 3rd to 27th, 1958. This is the largest attendance since these lectures were inaugurated in 1947.

Of the New Canadians participating in these courses, ten came from France, two, from Haiti and one from England, Germany, Poland and Portugal respectively.

TABLE X - ELEMENTARY COURSES ON MINERAL PROSPECTING GIVEN BETWEEN 1947 AND 1958

Fiscal Year	Number of Students		Total
	Quebec	Montreal	
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
1956	40	24	64
1957	25	35	60
1958	25	41	66
Total	257	251	508

DRAUGHTING AND CARTOGRAPHY BRANCH

Léon Valois, P. Eng., is the chief of this Branch, and Armand Blanchette is assistant chief. The Branch employs sixteen draughtsmen, one secretary and one messenger.

The Draughting and Cartography Branch supplies the documents needed by the geological survey parties of the Department, namely, aerial photos and compilations to the desired scale of base maps made from topographical surveys and aerial photos. In many cases, areas are photographed and mapped to supply an adequate basis of information to these geological survey parties.

The Branch keeps up to date two sets of tracings on linen of the various townships. On one are drawn all the stakings of the mining claims; on the other, all the boundaries and marks of identification of lands held by mining companies. The first series, showing the staked claims, consists of 904 tracings on which were outlined the boundaries of 45,901 new claims staked during the year; there are 489 tracings in the second sets. From all these tracings, 25,372 blue prints were struck off to fulfill requests from the public.

The following geological maps were prepared by the Branch, which also supervised their printing:

Final maps (coloured)

a) Completed:

No. 1073 - Coaticook-Malvina Area
No. 1097 - St. Magloire Area
No. 1098 - St. Pamphile Area
No. 1099 - Johan Beetz-Des Herbiers Area
No. 1100 - Beets Lake Area
No. 1113 - Southwest Part, Lesueur Township
No. 1129 - Geological Map of the Province of Quebec
No. 1130 - Mineral Map of the Province of Quebec

b) In the press:

No. 1175 - Bourget Area
No. 1180 - Bignell Area
No. 1210 - Rinfret Area

c) In preparation:

No. 1225 - Madeleine River Area
No. 1230 - Index Map to Geological Maps

Preliminary Maps

a) Completed:

No. 961 - Abitibi-North and Chibougamau (West) (2nd Edition)
No. 966 - Lois Lake Area
No. 1074 - Mineral Map of the Province of Quebec (4th Edition)
No. 1090 - Cape Smith-Wakeham Bay Belt
No. 1166 - Ste-Félicité-Grosses Roches Area
No. 1167 - Béraud-Mazérac Area
No. 1168 - Darlens-Chabert Area
No. 1169 - Guercheville-Lapparent Area
No. 1170 - Bones Lake Area
No. 1171 - St-Etienne de Bolton Area
No. 1172 - Hainaut-Champagne Area
No. 1173 - Thorne-Leslie-Clapham Area
No. 1174 - St-Sylvestre Area
No. 1177 - Brochant-De Bonnard Area
No. 1178 - Manitou Lake Area

No. 1179 - Oka Area
No. 1196 - Bilson Lake Area
No. 1209 - McOuat-Gauvin Area
No. 1211 - Pontefract-Gillies Area
No. 1212 - De Freneuse Lake Area (East Half)
No. 1213 - Finger Lake Area
No. 1217 - Megantic Area (East Half)

b) In the press:

No. 1215 - Thévenet Lake Area (East Half)
No. 1216 - Armstrong Area
No. 1218 - Northeast of Fiedmont Township

c) In preparation:

No. 1214 - St. Joseph Area
No. 1219 - Morin-Picquet Area
No. 1220 - Louvigny-Bochart Area
No. 1221 - Southwest Part, Roy Township
No. 1222 - Honorat West

Our draughtsmen traced on linen six other geological plans, thirty-six figures to illustrate various reports published by the Department and nine other drawings such as graphs, base maps, etc.

On the occasion of the Tour of Canada made by the Sixth Commonwealth Mining and Metallurgical Congress, the Branch prepared for publication a geological map (No. 1129) and a mineral map (No. 1130) of the Province. These two maps, drawn at a scale of 50 miles equal one inch, accompany a special report entitled: "Mineral Resources and Mineral Industries of the Province of Quebec".

TABLE XI - COMPARATIVE TABLE FOR THE FISCAL YEARS

1955, 1956, 1957 AND 1958

	1955	1956	1957	1958
Personnel	12	12	18	20
Mining claims tracings	690	769	845	904
New claims indicated	32,702	60,315	51,259	45,901
Mining companies tracings ...	375	441	441	489
Copies distributed	13,299	24,540	34,192	25,372
Final maps (coloured)	7	8	7	8
Preliminary maps	14	20	15	23
Geological plans	8	8	15	6
Miscellaneous plans	16	5	21	9
Figures	14	29	24	36

CIVIL ENGINEERING BRANCH

This Branch, under L.-A. St-Pierre, is made up of two distinct divisions: a) Division of mine roads; b) Division of mine villages.

a) Division of Mine Roads

During the fiscal year 1957-58, 26.17 miles of new mine roads were built, bringing to 1,540.5 the total mileage of roads built by the Department of Mines to date. The expenditure during the year, for the construction, improvement and completion of mine roads, including bridges, was $2,217,902.89, for a total of $30,404,314.13 spent since 1925.

During the year, a municipal corporation contributed $2,779.26 for the maintenance of roads, whereas mining companies contributed $295,967.04 for road construction, to which must be added a sum of $38,871.96, indebtedness incurred for work done last year.

TABLE XII - SUMMARY OF PROJECTS AND EXPENDITURES OF THE DIVISION OF MINE ROADS DURING THE LAST THREE YEARS

Designation of project	1955-56	1956-57	1957-58
New roads built, distance in miles	27.40	28.15	26.17
Improvement to roads, distance in miles	42.00	103.10	31.00
Permanent bridges, number	8	-	1
Maintenance by the Department, distance in miles	268.9	248.0	266.0
Cost of road maintenance	$ 154,525.34	$ 136,589.90	$ 248,697.42
Cost of new construction, completion of projects started the previous year, improvements to roads built in the past	$2,258,810.30	$2,311,146.23	$2,217,902.89
Total expenditures	$2,413,335.64	$2,447,736.13	$2,466,600.31

Details for the fiscal year 1957-58

Construction of new roads	$1,671,476.63
Bridge construction	42,868.33
Completion of last year's projects	413,045.20
Improvements to roads built in the past	90,512.73
Total	$2,217,902.89

Construction of new roads:

Electoral District	Designation of roads
Abitibi-East	From Desmaraisville eastward
Abitibi-East	From Chapais through the township of Daubrée
Abitibi-East	From Chibougamau to Waconichi Lake
Gaspé-North	From Murdochville westward through the township of Bonnécamp
Papineau	Cameron Mine road, township of Portland (West)
Portneuf	St-Alban peat bog road
Rimouski	Pointe-au-Père peat bog road

Construction of concrete bridges:

Electoral District	Name of River	Length of Span
Abitibi-East	Lac aux Dorés	44 feet

Completion of last year's projects:

Classed under the heading of new roads last year, the following projects were completed this year: road from the town of Chibougamau to Copper Cliff and New Royran mines, Quebec Chibougamau Goldfields mine road, Hilton mine road, Chibougamau Jaculet mine road.

Improvements to roads built in previous years:

The spreading of crushed gravel over a distance of 31 miles for the improvement of the Notre-Dame-de-la-Doré-Chibougamau road.

Lists of roads maintained in 1957-58:

a) Continuous maintenance from April to December

Electoral District	Designation of roads
Abitibi-East and Roberval	Chibougamau road and vicinity
Abitibi-East	Senneterre-Desmaraisville road north of the Taschereau River
Abitibi-East	Opemiska mine road

b) Occasional maintenance

Electoral District	Locality	Designation of roads
Abitibi-East	Township of Dalquier	New Formaque mine road
Beauce	Tring Junction	Carey-Asbestos mine road
Matane	St. Léandre	Lac Malfait road
Matane	St. Ulric	Lac Levasseur road
Mégantic	St-Antoine-de-Pontbriand and Thetford South	Flintkote mine road
Rivière-du-Loup	Isle-Verte	Premier Peat Moss road
Rouyn-Noranda	Noranda	Trucking road
Saguenay	Township of Letellier	To Lac des Rapides hydroplane base

Projects under study:

Reconnaissance, preliminary and final surveys, draughting and cost estimates have been completed on the following road projects:

Bateman Bay to Yorcan mine
Quebec Chibougamau mine to Merrill Island causeway
From Desmaraisville eastward
Senneterre-Desmaraisville road, to improve the layout between the Taschereau river and Cameron lake.
Murdochville-Lac Ste-Anne road, in the township of Lesseps

b) Division of Mine Villages

Chapais

Opemiska Copper Mines (Quebec) Limited erected a large building which serves as recreation centre, during the year; construction of new dwellings was kept up throughout the year. The municipal evaluation roll in 1957 was in excess of $3,380,000.00.

The town population increased from 900 in 1956 to 1,500 at the end of 1957. Mr. Richard Dumas, P. Eng., has been appointed town manager by the municipal council.

Chibougamau

In the spring of 1957, everything seemed to favour the steady progress of this town, but when fall came around the situation had deteriorated owing to the suspension of work at Bateman Bay, Chibougamau Jaculet and Quebec Chibougamau Goldfields, and the reduction in the size of operations at Copper Rand.

However, for a few months the population reached 3,500 people and then went back to the previous year's level of approximately 3,000. The municipality issued 90 construction permits for the erection of new dwellings having an aggregate value of $1,000,000. At the end of 1957, the taxable property had an assessed value of nearly $8,000,000.

The construction of a large High School was completed in time for the beginning of the September term.

Murdochville

The population is 2,500.

In December 1957, there took place the official opening of the Recreation Centre; built at a cost of $800,000, it is a gift from the company to the town's people.

Plans are being prepared to build a 17-room school for the 800 children of school age.

Noranda

Approximately 60 new dwellings valued at nearly $1,000,000 were built during the year. The town numbers 10,500 inhabitants.

Schefferville

Twenty new buildings were erected by Iron Ore Company of Canada making available 200 bedrooms for its bachelor employees. These buildings can be converted into family dwellings.

Belleterre, Bourlamaque, Cadillac, Malartic, Rouyn, Val-d'Or:

There were no new developments in these mine villages during the past year.

Chibougamau Explorers, Desmaraisville, Lac Barbel, Fort Chimo:

The prospect of establishing mine villages at the above-mentioned localities still exists. Some surveys and town planning work have been done on sections of lands with a favourable location and topography,

Peat Bog Drainage

During the year, peat bogs were in operation in the following electoral districts: Chicoutimi, Matane, Portneuf, Rimouski, Rivière-du-Loup.

A total contribution of $15,000.00, appropriated in the budget for this purpose, was distributed among all the peat bog operators who have done a volume of 181,010 cubic yards of drainage work.

SECRETARIATE

This Branch, under the direction of Raymond Cormier, is responsible for the personnel and the Divisions of Equipment, of Purveyor, of Distribution of Publications, and of Publicity.

Division of Distribution of Publications

The personnel of this Division, under Noé Lamontagne, sent out 71,342 publications in answer to requests for information concerning the geology and mineral resources of the Province. In addition, 15,292 publications were distributed according to the regular mailing lists, making a grand total of 86,634 publications.

This last total represents an increase of 23 per cent over the total of 70,308 publications distributed during the fiscal year of 1956-57.

Division of Equipment

C.R. Staniforth, chief of this Division, reports that, during the fiscal year 1957-1958, $139,359.83 was spent on equipping thirty-four geological parties, for the Geological Surveys Branch, the Mineral Deposits Branch, and the Residential Geologists Division, as well as four parties for the Civil Engineering Branch. All the equipment for camping purposes, instruments for field work, tents, canoes, outboard motors, kitchen utensils, etc. were supplied.

The Department of Mines operated a fleet of 44 vehicle motors, and all these automobiles, such as station wagons, jeeps, trucks and tractors, were kept in good condition for the staff of the Department.

The Department of Mines also takes part, each year, in the various industrial and regional exhibitions held in the Province. During the fiscal year 1957-58, displays of mineral exhibits were presented at:

Lachute	June 13th to 16th, 1957
Rouyn	June 26th to July 1st, 1957
Trois-Rivières	August 16th to August 22nd, 1957
Sherbrooke	August 24th to August 29th, 1957
Val-d'Or	August 30th to September 2nd, 1957

An exhibit was displayed at the Sixth Commonwealth Mining and Metallurgical Congress, Montreal, October 3rd, 1957.

Another exhibit was displayed at the International Trade Fair held at the Palais du Commerce, Montreal, from May 20th to 26th, 1957.

It should also be mentioned that an exhibit entitled "Visages du Canada - La Vallée du Saint-Laurent" was displayed at the "Magasin du Louvre" in Paris, France, from January 17th to February 22nd, 1958. Samples from the various mineral substances mined in the Province of Quebec were placed on a table. In front of each of them, a button could be pushed which would light up multicoloured lamps which indicated on a large map of the Province of Quebec the location of the deposits of the minerals exhibited. Jean Girault, the Department representative, gave to a large number of visitors all the information they required on the mining industry and the mineral resources of the Province.

Publicity

To keep the public informed on new developments concerning the mining industry and the mineral resources of the Province, officials of the Department of Mines prepare lectures and papers which are presented to groups and societies. Several articles are also prepared for technical reviews and trade newspapers, as well as 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.

Speeches Delivered by Honourable W.M. Cottingham

1957

June 6th	International Council of Women Congress
June 10th	Quebec Metal Mining Association
Oct. 25th	Speech - Canadian Club, New York

1958

Jan. 13th	Station C.B.M.T. - Televised Broadcast: "Provincial Affairs".
Feb. 12th	Radio Broadcast in French - Station C.K.A.C., Montreal

Articles under the Signature of Honourable W.M. Cottingham

1957

April	Western Mines and Oil Review: "New Records in Discovery. Exploration and Production, Quebec's Greatest Year"
December	The Gazette. Review of the Progress of the Mining Industry in 1957

Other Articles and Lectures

By A.-O. Dufresne, Deputy Minister:

Significance of Mining in the Province of Quebec: American Society of Metals, Quebec Chapter - February 24, 1958.

By Jacques Béland, Geologist:

"The Geology, Physiography and Economic Aspects of the St. Maurice Valley": illustrated lecture to the Engineering Institute of Canada, Trois-Rivières, November 4, 1957; also presented to the Société Géologique de Québec, at Quebec, November 21, 1957.

By Fernand Benoît, Geologist:

"Un essai d'Interprétation d'une Section de l'Axe Sutton près de la Rivière Chaudière": paper presented to the 25th Annual Meeting of l'Association Canadienne-Française pour l'Avancement des Sciences (ACFAS), at Quebec, November 2, 1957.

By Robert Bergeron, Geologist:

"Important Low Grade Iron Deposits in the Province of Quebec": paper published in Can. Min. Jour., Vol. 78 No. 4, April, 1957.

"Paysages et Richesses de l'Ungava": illustrated address to the Comité Culturel des Employés Civils de la Province de Québec, at Quebec, April 25, 1957.

"Geography and Natural Resources of the Ungava Bay Region, Quebec": illustrated address to the Thetford Mines Branch of the Canadian Institute of Mining and Metallurgy, Thetford Mines, May 2, 1957; also presented to the Sherbrooke Branch of the C. I. M., May 3, 1957.

"Aperçu de la Géologie de la Zone de Cape Smith-Wakeham Bay, Nouveau-Québec": paper presented to the 25th Annual meeting of ACFAS, at Quebec, November 2, 1957.

"Proterozoic Rocks of the Northern Part of the Labrador Geosyncline, the Cape Smith Belt, and the Richmond Gulf Area": contributary paper published in "The Proterozoic in Canada", Royal Soc. Can. Special Publications, No. 2, Univ. of Toronto Press, 1957.

"Late Precambrian Rocks of the North Shore of the St. Lawrence River and of the Mistassini and Otish Mountains Areas, Quebec": contributary paper published in "The Proterozoic in Canada", Royal Soc. Can. Special Publications, No. 2, Univ. of Toronto Press, 1957.

"The Cape Smith-Wakeham Bay Belt, Northern Ungava, Quebec": paper presented to the joint Annual Meetings of the Geol. Assoc. Can. and the Prospectors and Developers Assoc., Toronto, March 12, 1958.

By André Laurin, Geologist:

"Relations Between the Chibougamau - Abitibi Region and the Grenville Region, Quebec": paper presented to the joint Annual Meetings of the Geol. Assoc. Can. and the Prospectors and Developers Assoc., Toronto, March 12, 1958; also presented to the Société Géologique de Québec, at Quebec, February 20, 1958.

By R.-A. Marleau, Geologist:

"Les Roches de la Période post-Taconienne à la Tête de la Rivière Chaudière": paper presented to the 25th Annual Meeting of ACFAS, at Quebec, November 2, 1957.

By H.W. McGerrigle, Geologist:

"The Geology of Gaspé Peninsula": paper presented to the Outcrop Society of Québec, at Quebec, May 3, 1957.

By J.H. Remick, Geologist:

"Guercheville-Du Guesclin Area": article published in the Chibougamau Courier, November, 1957.

By F.F. Osborne, Geologist:

"Notes on Field Trip - Counties of Montmagny, Bellechasse, Dorchester, Mégantic and Frontenac": Que. Dept. Mines mimeographed notes, used as a guide for a geologists' field trip conducted by Dr. Osborne in the Appalachian sub-province, August 14-18, 1957.

By Jehan Rondot, Geologist:

"Quelques Considérations sur la Tectonique et les

Ressources Minières de la Turquie": paper presented to the 25th Annual Meeting of ACFAS, at Quebec, November 2, 1957.

"Zonéographie des Roches Métamorphiques d'après Maurice Roques": paper presented to the Société Géologique de Québec, at Quebec, March 20, 1958.

By Pierre Sauvé, Geologist:

"Metamorphism and Structure of the Labrador Trough at 58° North Latitude": illustrated lecture to the Société Géologique de Québec, at Quebec, December 12, 1957.

"The Geology of the Eastern Border of the Labrador Trough near Fort Chimo, Northern Quebec": paper presented to the joint Annual Meetings of the Geol. Assoc. Can. and the Prospectors and Developers Assoc., Toronto, March 12, 1958.

By J.-E. Gilbert, Acting Chief, Mineral Deposits Branch:

"Notre Nouveau Domaine Minier: La Côte Nord et le Nouveau-Québec"; talk given to the Economic Mission of the Quebec Chamber of Commerce at Baie-Comeau, June 4, 1957.

"Québec et les Développements Miniers de la Côte Nord et du Nouveau-Québec": talk given to the Quebec Chamber of Commerce at Quebec, September 26, 1957.

"L'Industrie Minérale de la Province de Québec": lecture given to the students of the Faculty of Commerce, Laval University, October 30, 1957.

"Récents Développements de l'Industrie Minérale de la Province de Québec": talk given to the Granby Junior Chamber of Commerce at Granby, November 28, 1957.

By Maurice Latulippe, Resident Geologist, Val-d'Or:

A series of three lectures given on February 17th, 19th and 20th, 1958, to the Junior Chamber of Commerce of Val-d'Or on the General Geology and the Mineral Deposits of the Province of Quebec.

By Maurice Archambault, Director of Laboratories:

"L'Ecole Polytechnique et l'Ingénieur Professionnel":

conference given on station C.B.F. and the French network of C.B.C., at Montreal, on January 28, 1958.

"Les Carrières Scientifiques et l'Industrie Minérale au Canada Français": conference and forum at the Université de Montréal held under the auspices of the Société St-Jean-Baptiste, at Montreal, March 15, 1958.

By Fernand Claisse, Chief Physicist:

"XRF. TGA. DTA. New Tools for the Analyst": conference presented to the Canadian Association of Applied Spectroscopy, at Arvida, April 29, 1957.

Diffusion electrolytique de l'oxygène dans le titane": thesis presented at the Faculty of Sciences, Laval University, at Quebec, May 29, 1957.

"Sample Preparation for Accurate X-ray Fluorescence Analysis": paper presented to the Fourth Ottawa Symposium on Applied Spectroscopy, at Ottawa, September 13, 1957.

"Les Carrières Scientifiques": conference presented to the graduating class of L'Académie Commerciale, at Quebec, November 15, 1957.

"The Resistometer, an Instrument for Measuring the Variations in Resistivity along Wires": article published in The Review of Scientific Instruments, Vol. 28, p. 584, 1957.

By Jean Girault, Chief Mineralogist:

"Identification des minéraux opaques au moyen de leur courbe reflectivité-longueur d'onde": paper presented to the XXV Congress of ACFAS, at Quebec, November 2-3, 1957.

"Les Ressources minérales de la Province de Québec: passé, présent et avenir": talk given at the Exposition "Visages du Canada-Vallée du St-Laurent", Paris, January 17 to February 22, 1958.

"Connaissez-vous l'amiante?": article published in "Le Jeune Naturaliste", Vol. 8, No. 5, January 1958.

Purveyor

The Department of Mines, through the Purveyor's office, issued purchasing orders, payable by its own Accounting Division, to the value of $413,610.08

In addition, purchasing orders payable by the Accounting Division of the Executive Council amounted to $301,284.24

Total purchases for the fiscal year ending March 31st, 1958, amounted to $714,894.32

The following table shows, in detail, the various purchases paid by the Accounting Division of the Executive Council.

TABLE XIII - ALLOCATION OF PAYMENTS BY THE EXECUTIVE COUNCIL, FISCAL YEAR 1957-58

(Pertaining to Department of Mines)

Description	Amount Payable	Amount Paid	Balance
Purchase of books	$ 6,123.49	$ 5,393.04	$ 730.45
Typewriters, calculating machines etc.	22,036.30	20,888.95	1,147.35
Office furniture in general	36,793.19	33,271.49	3,521.70
Special items	23,787.53	12,574.86	11,212.67
Printing and bookbinding			
Department's reports	$ 52,382.16	$ 47,996.16	$ 4,386.00
Lithographed maps	135,002.19	105,941.19	29,061.00
Forms, envelopes, engraving, embossing	22,129.88	20,734.98	1,394.90
Binding, mounting of maps	3,029.50	1,767.50	1,262.00
	$ 301,284.24	$ 248,568.17	$ 52,716.07

Balance due, transferred to 1958-59 budget $52,716.07

Amount allotted in 1957-58 budget $125,000.00

DIVISION OF EDITING AND PRINTING

Maurice Brunet, chief of this division, submits the following list of the publications of the Department of Mines edited during the fiscal year 1957-1958. All of them have been issued in French and in English.

Geological Report No. 78: Bourget Area, René G. Jooste
Geological Report No. 79: Bignell Area, J.-E. Gilbert
Geological Report No. 80: Radioactive Mineral Occurrences of the Province of Quebec, D.M. Shaw
Geological Report No. 81: Rinfret Area, W.W. Longley
Preliminary Report No. 351: The Oka Area, Ovide-D. Maurice
Preliminary Report No. 352: Description of Mining Properties in the Chibougamau Region, J.R. Assad
Preliminary Report No. 353: Lois Lake Area, Burdett Lee
Preliminary Report No. 354: General Report of the Minister of Mines of the Province of Quebec for the Year Ending March 31st, 1957
Preliminary Report No. 355: Cape Smith-Wakeham Bay Belt, Robert Bergeron
Preliminary Report No. 356: McOuat-Gauvin Area, G.S. Sater
Preliminary Report No. 357: Pontefract-Gillies Area, Ralph Kretz
Preliminary Report No. 358: De Freneuse Lake Area (East Half), Pierre Sauvé
Preliminary Report No. 359: Saint-Sylvestre and Saint-Joseph (West Half) Areas, Fernand Benoît
Preliminary Report No. 360: Finger Lake Area, Jean Bérard
Preliminary Report No. 361: Marin-Picquet Area, J.H. Remick
Preliminary Report No. 362: East Mégantic and Armstrong Areas, R.-A. Marleau
Preliminary Report No. 363: Thévenet Lake Area (East Half), Léopold Gélinas
Preliminary Report No. 364: Northeast Quarter of Fiedmond Township, W.G. Brown
Preliminary Report No. 365: Louvigny-Bochart Area, R. Bergeron, G.H. Beall
Preliminary Report No. 366: Honorat West Area, W.B. Skidmore
Preliminary Report No. 367: Beaumouchel-Houdet Area, A.-F. Laurin
Preliminary Report No. 368: Part of Western Duprat Township, Simon H. Behr, Jean Dugas, Wallace B. Emo
Preliminary Report No. 369: Eric Lake Area, D.S. Mcphee
Preliminary Report No. 370: Southwest Quarter of Roy Township, F.D.M. Horscroft

Preliminary Report No. 371: Lead and Zinc Deposits of the Province of Quebec, G.S. Sater
Preliminary Report No. 372: Lake Orford Area, Henry de Romer
Preliminary Report No. 373: Gabriel Lake Area (West Part), Léopold Gélinas
Preliminary Report No. 374: Description of Mining Properties Visited in 1954 and 1955
S - 39 List of the Principal Operators of Mines and Quarries of the Province of Quebec
S - 41 Outline of Progress of the Mining Industry of the Province of Quebec during the Year 1957
S - 42 Northern Quebec, The Prospector's Domain
S - 43 Quebec, a Mining Empire
The Mining Industry of the Province of Quebec for the Year 1956
Mineral Resources and Mineral Industries of the Province of Quebec

LIBRARY

The Department librarian, A. Champagne, reports that during the fiscal year 1957-58, the library of the Department acquired 3,051 documents, which may be detailed as follows: 1,348 reviews or magazines, 364 books, 610 reports and bulletins, 332 pamphlets, and 397 maps. These acquisitions bring the grand total of documents to 13,416 units.

The library has now approximately 6,400 books. During the year, 330 books were purchased and thirty-four acquired through exchange.

At the end of the fiscal year 1956-57, the library had received a total of 1,600 maps, geological as well as topographical. The total now stands at 1,997, an increase of 397.

In the course of the year 3 books, 15 reviews, 5 reports and 17 pamphlets were bound and 109 maps were mounted on canvas.

Despite a slight decline in the mineral production during the fiscal year under review, the public kept up its interest in mining, and the library had 275 visitors during the year.

SCHOLARSHIPS

The Legislative Assembly again increased the amount that the Department of Mines distributed in scholarships to students in geology, metallurgy and mining. For the university term of 1957-58, the amount was brought up to $60,000.00 from a previous $50,000.00.

The committee appointed by the Minister recommends the most deserving candidates. This committee was composed of the following:

Chairman: Eugène Larochelle, General-Secretary, Quebec Metal Mining Association;
Ignace Brouillet, President, Corporation de l'Ecole Polytechnique;
J.U. MacEwan, Director, Department of Metallurgy, McGill University;
Reverend J.-W. Laverdière, Director, Department of Geology, Faculty of Sciences, Laval University;
Gérard Letendre, Director, Department of Mines and Metallurgy, Faculty of Sciences, Laval University;
H.G. Young, Inspector General, Protestant School Board;
Secretary: Miss Gisèle Landreville.

Following its established procedure, the committee, in making its recommendation, studied first the requests of graduates working towards a doctor's or a master's degree, secondly came the requests for renewal of under graduate students, and lastly requests from new candidates by order of merit and scholarly standing.

In 1957-58, the Department of Mines awarded one hundred and three scholarships, distributed as follows:

Candidates to post-graduate courses	24
Students entering final year in science faculties	38
Students in less advanced years	41
Total	103

The members of the committee, on behalf of the students who have received this financial help, wish to thank the Government of the Province and more specially the Minister of Mines for the encouragement thus offered to education in the mining field.

TABLE XIV - COMPARATIVE STATEMENT OF REVENUE COLLECTED BY THE DEPARTMENT OF MINES DURING THE FISCAL YEARS 1955-56 TO 1957-58*

	1955-56	1956-57	1957-58
Miner's certificates	$ 196,859.00	$ 163,645.00	$ 135,635.00
Development licenses	801,175.44	1,171,048.82	704,100.27
Exploration licenses	- -	- -	323,405.79
Exploitation leases	100,000.00	100,000.00	100,000.00
Sales of mining concessions ...	57,980.81	34,427.69	25,678.13
Acreage tax on mining concessions	3,496.66	3,032.02	3,522.94
Fees for transfer of titles ...	54,016.00	51,825.00	46,955.00
Rights on townsite lots	12,013.64	18,463.81	10,111.54
Annual rentals on townsite lots	826,00	1,873.02	5,442.00
Rentals of land on townsite lots	5,140.00	6,338.67	2,152.00
Water and sewage tax	100.00	1,246.00	- -
Dues on yearly profits	3,480,414.85	5,962,175.76	6,706,749.01
Sales of permits for unwrought metals	28.00	14.00	2.00
Sales of maps, blue prints	11,607.52	11,566.64	7,012.85
Sales of mineral collections ..	2,804.70	2,508.75	2,656.60
Fees for assays	21,620.65	11,354.20	3,352.90
Miscellaneous	13,177.80	14,112.92	17,431.67
Casual revenue	3,122.06	3,396.62	40,335.24
	$4,764,383.13	$7,557,028.92	$8,134,542.94

* Prepared by Gérard Gagnon, Chief Accountant.