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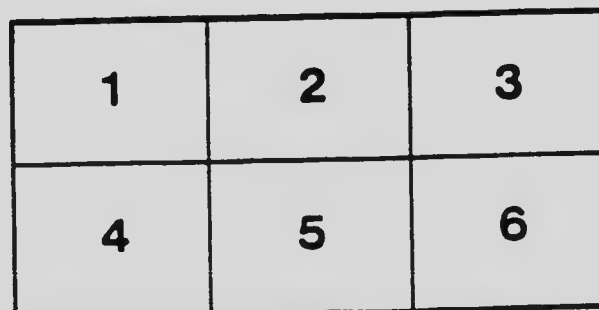
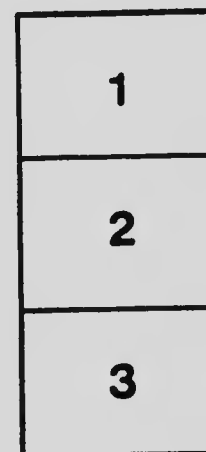
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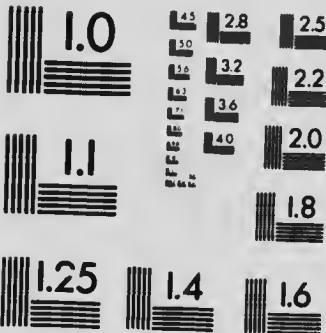
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DEPARTMENT
OF
Colonization and Mines

MINING OPERATIONS

— IN THE —

PROVINCE OF QUEBEC

DURING THE YEAR

1900

*Appendix to the annual report of the Department for the
fiscal year 1899-1900.*

BY
J. OBALSKI, M.E.
INSPECTOR OF MINES.

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BY
J. OBALSKI, M. E.
INSPECTOR OF MINES.

To the Honorable A. TURGEON,
Commissioner of Colonization and Mines,
Quebec,

Sir,

I have the honor to transmit you a statement of the operations of the different mining industries in the province, to form part of the report of the Department. This statement covers the period from 1st January 1900, to 1st January, 1901. As you are aware, we have for three years past published this statement separately. The inconvenience of dividing into two the season of operations or of delaying for a year the publication of the information obtained led us to adopt this practice, which is altogether to the advantage of those interested in mining.

The mining industry continues to develop regularly in the province, without, however, presenting any very striking new features. The most important operations have been in asbestos, copper, mica, chrome and iron, and an increase in the output of these has to be reported. The working population has augmented and it is noteworthy that, in certain districts, wages have been raised 25 per cent by the mining companies. The gross value of the minerals utilized is represented this year by a sum of \$2,546,000 with 5,400 hands employed, to whom the companies paid in wages about \$1,300,000 for an average of ten months' work. I may remark that the figures of the production of the mining industry would be much increased, if the value of the manufactured products were given. The Mining Act has been well observed and the number of permits issued was larger than that of previous years. The safety of the workmen is well assured and the number of accidents is represented by two men killed and a few badly injured apart from the many accidents mentioned in the newspapers and resulting from the unskillfulness of workmen using dynamite in the different works, the inspection of which does not come under our control.

Please accept, Sir, the expression of my respect.

J. OBALSKI, M. E.
Inspector of Mines.

Quebec, March, 1901.

IRON

No work of importance was done in the iron mines of the province, except at the Scott mine in Hull, which will be more fully referred to further on. Some prospecting was done in Pontiac, but it was not followed up by any serious works, probably owing to the high rate of transportation. On the North Shore of the Gulf of St. Lawrence, the magnetic sands have been further investigated and prospected; but nothing has been yet done with them. It is, however, probable that in a near future these deposits will be worked, experiments having shown that they can be separated mechanically from the titanium, the presence of which has been thus far one of the chief obstacles to the use of these sands, which, once prepared, yield about 70 per cent of metallic iron.

The following analyses have been supplied by Mr. R. T. Hopper, of Montreal. They refer to the black sand of Natashquan, concentrated by a special electro-magnetic machine which he controls. It will be remarked that the proportion of titanium is reduced to a very interesting minimum. The two first analyses were made by Mr. J. T. Donald, of Montreal, No 3 in the United States and No 4 in Glasgow.

	1	2	3	4
Metallic iron.....	70.31	70.94	69.780	69.68
Silica.....	.68	.22	.321	.0
Sulphur.....	.014	.023	.011	.021
Phosphorus.....	.043	.050	.015	.005
Titanium.....	.370	.420	.860	.0

The following analyses of the concentrated sand of Moisie made by Professor Stillman, of the Stevens Institute, Hoboken, N. J. has also been communicated to us :

Oxide of iron.....	96.67
Phosphorus	0.03
Sulphur.....	traces
Manganese.....	0.33
Titanium.....	0.00
Insoluble matter, Silicates of Alumina.....	2.88
Undetermined.....	0.09
	<hr/>
	100.00

Equivalent to 70.01 of metallic iron.

The deposits of titanic iron have attracted some attention and 20 tons were forwarded last winter from St. Urbain and 30 tons last fall from Seven Islands. These specimens were sent to the United States, but I have not heard the results obtained. In Europe, some little attention has also been given to the manufacture of ferro-titanium and, at the Paris Exhibition, ferro titanium was shown which contained 40% of titanium obtained by the "Alumino-thermic" process of Dr Hans Goldschmidt. The experiments in the United States appear to have been made with the electric reduction furnace.

Scott Mine.—This mine, situated on lot VII, 10, Hull, 2 miles from the Ironside Station of the Ottawa & Gatineau Valley Railway, is in the immediate vicinity of the old Forsyth mine, of which moreover it takes in a part. The character of the ore is well known and assays of it are given in the report: "Mines and Minerals" published in 1889-1890; it is a mixture of hematite and magnetite in which the latter predominates and there is also a little graphite in it. This mine has been in operation since May last and 2 or 3 carloads of 25 tons are shipped weekly. The works consist of a couple of open pits near the old work and from 10 to 15 men have been employed during the summer, the work being done by hand and with horse-derricks. The ore occurs in veins in the Laurentian rocks. Work was being carried on at two points, where I observed a thickness of 9 to 12 feet, the veins having a N. N. E. trend and a northerly dip. A depth of 25 feet has been attained; 1500 tons of ore were shipped during the year to Pennsylvania. It is of good quality and holds only a small proportion of sulphur and phosphorus. The works are carried on under the name of Mr. J. O. Hibbard, of Ottawa.

A pretended important discovery of magnetic iron is reported on lot VIII, 22 of Shawenegan. This mine, which was slightly prospected last fall, is the property of Mr. Adolphe Trempe and others, of Montreal. According to the tests supplied, the average grade would appear to be 62% with very little titanium and sulphur and no phosphorus, the encasing rocks being chiefly calcareous.

The blast furnaces of Drummondville and Radnor have operated with the following results:

Ore extracted (bog ore).....	17186	$\frac{405}{2000}$	tons worth \$ 34,372
Ore charged.....	15015	$\frac{775}{2000}$	" "
Limestone charged.....	1942	$\frac{475}{2000}$	" "
Wood charcoal charged.....	844300		bushels
Metal produced and shipped.....	6748	$\frac{1141}{2000}$	tons worth \$134,971
Number of men employed : 800.			

Only one furnace was operated at Drummondville during 4 months ; at Radnor the capacity of the furnace was increased to 35 tons a day ; it was in blast during six months.

The ore used by these companies is derived from the localities mentioned in former reports. There were also sent to Radnor a few carloads of bog ore from the environs of Lake Memphremagog, but its working was abandoned.

OCHRE

This product was worked at St. Malo, near Three Rivers, by two companies : the Canada Paint Co. Ltd. and the Champlain Iron Oxide Co., the former being the more important.

1182 tons of 2000 lbs. worth \$ 300, were produced and shipped to Canada, the United States and England ; the shipping stations being Three Rivers and Champlain.

52 men were employed during six months.

CHROME

The shipment of Chrome was heavier this year than last, amounting to 2068 tons valued at \$33,449, in 1900 as against 1768 tons, worth \$20867, in 1899. The grade of ore shipped was also higher, most of it being concentrated ore.

Coltraine Mining Company.—The most important works were carried on by this company, which has also to its credit nearly the entire shipment. It operated during the greater part of the year, developing its mines and perfecting its concentration, which, as demonstrated by the above figures, turned out for the market a considerable quantity of concentrated ore grading 50% and over. The actual works are as follows :

Shafts Nos. 1 and 2 are united and were worked at a depth of 105 feet; towards the middle of the year, this shaft, though showing good indications at bottom, was abandoned owing apparently to the insecurity of the timbering and a large quantity of debris was left on it. Towards the end of the year, it was decided to clear it out and resume its working, which is carried on by steam machinery, steam drills and a cable derrick.

Shaft No. 5 near Lake Caribou, was sunk to a depth of 40 feet, well timbered, and two galleries were run into veins of chrome, showing a good bearing of ore of variable grades which attained in spots 45 to 50 %.

The best ore is shipped in the raw state and the inferior qualities are sent to the mill, which turns out about 5 tons of concentrated of 45 to 50 % grade daily. A specimen of concentrate picked up during one of my visits, gave 51.86 %, the ore came from shaft No. 5 and contained 36 to 38 %. A drier, which was put in last year, did not yield good results. A jigger was added, forming three batteries with the others, as well as settling tanks. Still, there is always a loss in the tailings, and measures will doubtless be taken to treat over again on special tables the tailings which have been the thrown aside since the beginning of the operations. Altogether, it may be said that the plant, though not yet perfect, is capable of turning out good concentrated in the neighborhood of 50 %. This ore is shipped in bags, but oftener in bulk. Several carloads were sent to the Buckingham electric reduction works and appear to have given satisfaction. Some prospecting was done on other parts of the property and especially on the other side of Black Lake, but no serious work was performed. The company claims to have on hand 10,000 tons of low grade ore, which can be treated in the mill.

Nadeau d' Topping Mine.—This mine was discovered, in the autumn, on lot A 17 of Coiraine in a region wherein chrome had not previously been found. It is situated five miles from the Black Lake station by the Thetford road and old lumbering roads, so that transportation is easily effected only in winter.

In mid-October, the mine consisted of an excavation, 15 to 20 feet deep, showing numerous blocks of chrome at the bottom and on the sides. Work had been carried on from the month of May with a horse-derrick and ten men. Around the main opening, good indications of chrome are visible at several points. Thus far, about 200 tons of picked ore have been taken out; the ore seems to be abundant and of good quality, 50.60 % being mentioned. A specimen selected by myself gave 56.82 %. This mine is operated under a mining license.

The N. W. of lot 17 was prospected during the autumn on a prospecting license by Mr. Joseph Lemelin, who, from a small excavation at a distance of 250 or 300 yards from the one above mentioned, took out 4 to 5 tons. Mr. Lemelin also did some unimportant prospecting on lots XIII, 9-IV, 4, 5 of Coleraine.

Beebe & Co. worked on lot B 6 of Coleraine and took out a certain quantity of ore, which has not yet been shipped. This company proposes to put up a concentrator in the neighborhood of its mines. This company's head quarters are in Boston, where it has an establishment for the manufacture of chromic acid, which is used in leather tanning.

The H. Leonard Mine, at Lake Saint-Francis, was not worked this year. A couple of hundred tons of low grade ore were shipped. A company, known under the name of "The Canadian Chrome Iron Co., Ltd.", with a capital of \$50,000, is being organized to develop these properties and to erect a mill on lot 11.26; the ore will be shipped from the Coleraine station, which will be the company's headquarters.

Some prospecting work done last year on lots 11, 26, 27 yielded a few hundred tons of low grade ore, which have not been shipped.

On lot III. 8 of Thetford, belonging to Mr. Théophile Pomerleau, chrome has been discovered and slightly prospected by Mr. Lessard, of Black Lake.

Some prospecting on lots 11, 24 and 25 of Ireland has given good indications.

At Brompton Lake, Mr. John McCaw has done some work and has followed a deposit of chrome to a depth of 135 feet. The ore is good grade and a dozen of tons have been shipped to Pittsburgh. An analysis of this ore, which has been communicated to me, shows 51.16% of chrome and 4.88% of silicium.

The output of chrome may be summed up as follows, for 1900 :

1st class	1,579 long tons worth.....	\$37,966 00
2nd class.....	3,246 " " "	35,462 00
	<hr/>	<hr/>
	4,825 " " "	\$73,428 00

Besides about 10,000 tons of inferior products that can be mill-treated.

The following quantities were shipped :

1st class.....	1,224 tons worth.....	\$ 24,434
2nd class.....	844 " "	9,015
	<hr/> 2,068	<hr/> \$ 33,449

The shipments were made as follows :

Black Lake Station (Q. C. R.).....	1831 tons.
Colrairie Station (Q. C. R.)	225 "
Windsor Mills Station (G. T. R.).....	12 "
	<hr/> 2068 "

The first class ore is chiefly concentrated ore. The shipments are made to Pennsylvania and several hundred tons have also been utilized at Buckingham in the manufacture of ferro-chromium ; 130 hands were employed at the mines during the greater part of the year.

COPPER

The Capelton copper mines were regularly worked and yielded 83,742 long tons of low grade ore worth \$150,152 at the mine, about one half of which was shipped to the United States and the remainder utilized on the spot. The two Enstis and Nichols mines were worked during the whole year, employing 270 men, 185 of them underground and the others on the surface, the wages paid footing up to about \$70,000. The Nichols Company has built a wing to its works for the manufacture of muriatic acid. It also prospected the old Sherbrooke mine, located on lot VII, 12 of Ascot, where ten men have been employed since July. A shaft, dipping 45° to the South East, has been sunk on a 6 feet vein running North East. About 175 tons of ore had been taken out at the time of my visit in October. A small 10 inch vein has also been noted to the South East of the first.

The Ascot mine had remained idle since January, 1900, but towards the close of the year an American syndicate decided to put in machinery and to develop this mine. The name of this company will be the *Dominion Mining and Smelting Co.*, Sherbrooke. Compressed air will be used and it is hoped that the mine will shortly be in full operation.

Some prospecting was also done during a couple of months at the Acton Mine by Mr. J. McCaw.

At Harvey Hill, Dr James Reid has continued to prospect intermittently.

In the neighborhood of Sherbrooke, some work was done at the Suffield Mines and the adjoining mine opened a few years ago by Mr. Kennedy.

LEAD, ZINC, SILVER

The Calumet Island mine was not worked this year and the same statement applies also to the other indications of these minerals in the centre of the province.

The Lake Temiscamingue Mine was reopened and is actually worked by the *British and Canadian Lead Co. Limited*, under the management of Mr. E. J. Walsh ; 25 men have been employed in it for five months, partly to get the mine into good order and to put in new machinery. 286 long tons of concentrated and picked galena, about one half of which was the product of previous year, have been shipped.

GOLD

On lot 15, de Lery, Gilbert river, Messrs. Ch. Mazes and others, of Montreal, have sunk a shaft of 67 feet to the North of the old Lockwood shafts (that is to say, in a still unworked zone) and claim to have struck the auriferous gravel at that depth. Before doing so, they passed through the following :

Gravel and clay.....	21 feet.
Soft blue clay.....	21 "
Gravel holding no gold and containing fossil wood.	20 "
Quick sand.....	3 "
Gold bearing blue gravel.....	

The quartz was also tested by Mr. Mazes, who found in most of the veins operated upon a percentage of \$1 to \$3 of gold to the ton. The works were shut down on the setting in of winter.

On lot 14, in the neighborhood of the old Smart shaft, on the top of the hill, three shafts were sunk but not completed owing to the quicksand. The company known as "The Beauce Syndicate," which did this work, has since pumped out the Smart shaft located on the top of the hill and employed 15 men during a part of the year.

On the "Ruisseau des Meules" back of the village of St. Francis, Mr. A. Coupal did not work on account of a law-suit with Messrs. McArthur Bros, lessees of the DeLery patent. This section seems to be a paying one, for, besides the gold found formerly there, Mr. Coupal took out from it during the summer of 1899 several thousand dollars worth of the precious metal, which included some nuggets of \$300 to \$400.

At the great falls of the Chaudiere, where the Stanley Gold Co. (Ltd) has licenses, only a few small prospects were made by Mr. Sam Byrnes, the company's representative.

In fine, it may be said that the gold output of Beauce this year was nil, some twenty men only having been engaged in prospecting work.

In the Dudswell region, also only a little unimportant prospecting was done.

ASBESTOS.

During the past year, this industry assumed a development which equalled that of the best periods of its history and prices rose proportionately high. First class crude, which was selling last year at \$100 to \$110 reached \$180 to \$200; the second class \$80 to \$100; the fibre \$30 to \$40 and the other qualities in proportion. The demand also greatly increased and necessitated the taking on of a larger number of hands, night work in some cases and an increase of the capacity of the mills, &c. In addition, mines that had been unworked for some years were re-opened. This prosperity applies to the districts of Thetford, Black Lake and Danville and the best illustration that can be given of it is supplied by the fact that the mining companies voluntarily raised their rate of wages 25 o/o.

At Thetford, the Bell, King and Johnson companies worked very actively, employing 750 hands, including the women working in the mills; the companies want more help. The Bell Company did night work throughout most of the summer, using 11 derricks in its mines. The King company opened a new pit in rear of their principal pit and has given orders for the construction of another mill, which will be completed towards the month of July. The Johnson company is building a mill of much larger dimensions than its old one, which will require 300 horse power and be directly served by a branch of the Quebec Central Railway, at present, there are 7 derricks at the mine and the deepest pit has a depth of 125 feet. The same company has also put up a mill at Black Lake, to which reference will be made further on.

The Beaver Asbestos Co., which owns lots 30 and 31 of range C of Colraine and which had shut down its works for some years, has begun the construction of a mill of large capacity which will soon go into operation. The mine and mill will be under the management of Mr. H. Williams, the company's former manager. Dwelling houses are also to be erected by the Johnson and Beaver companies to lodge their employees in that part of Thetford village.

At *Black Lake*, the Union mine was in regular operation; the properties of the Montreal and Glasgow Co., were leased to the *Canadian Asbestos Co.*, under the management of Mr. Wm. Slater, who works the mine at Black Lake and keeps the mill constantly running, which treats the old debris, as well as the debris of the Fraser mine in Broughton, belonging to the same company. The output was large and this was shipped regularly, during a part of the summer, to the extent of a carload of asbestos products daily.

The Johnson Company, of Thetford, owns lot 29, 30, 31 of range B. of Colraine and for several years has worked on the western part of the block by contract. The working was carried on most successfully with steam machinery and 3 derricks and a large quantity of long fibre of fine quality was obtained. The company then decided to develop this property and to build a mill, which will go into operation in the spring. The system will be the same as that already followed, namely, breaking and crushing the rock, running through the cyclone and separation of the "fibre" and "paper stock" qualities.

Dr. James Reed also reopened his mine in the Poudrier road and prospected on lot 29 near the Thetford road, where he put in steam machinery, having found indications of fine asbestos that warranted this outlay. He also contemplates the construction of a mill.

The Anglo-Canadian Co., controlled by Mr. R. T. Hopper, did not work, but I understand that its mines are to be soon reopened. Mr. Hopper has bought the old *Pointe-du-Chêne* Mill in the county of Argenteuil, and the parts thereof that are useful are being transferred to Black Lake, where a mill is to be built.

It is reported also that the United Asbestos Co's mines will be shortly reopened.

At *Danville*, the Asbestos & Asbestic Co. worked regularly down to March, when the mill was entirely destroyed by fire. A temporary one was run up, capable of treating 200 tons of rock a day and supplied with

2 cyclones. It was in operation in July and has worked since ; but the company proposes to build another of greater capacity and equipped with 6 cyclones. Nos. and 2 crude varieties, are sorted by hand ; and fibre C. D. E., crude and ground asbestic are prepared in the mill. The Company does its transportation by a four mile branch connecting with the G. T. R. at Danville, which branch is its own property and run by itself. A large quantity of asbestic is being prepared as this product is beginning to be appreciated and is in good demand. The company proposes to extend its works by opening up new surfaces and continuing its pits ; 120 men were employed at the time of my visit.

In the township of Ham North VI, western part 13, a small strip of serpentine has been discovered, carrying veins of fine asbestos, some of which measure 2 inches. The pay strip forms a small hill of 30 feet high by 100 feet at the base, which occurs to the South and at the foot of a higher hill of quartzose serpentine that appears to be worthless. Only a little prospecting work was done by Messrs. Champoux and Brochu, which yielded a couple of hundred pounds of asbestos ; the mine is situated at a distance of 18 miles from Weedon Station (Q. C. R.)

In the Ottawa region nothing was done this year ; certain deposits, however might be worked on a small scale for the production of fibre and especially the mine located on lots V. 15. 16 of Portland West.

The Denholm mine, presently in the hands of Mr. J. A. Seybold, was not worked.

It will thus be seen that this industry is making great progress and the year 1901 will probably witness an output far ahead of previous years. All the workshops in course of construction for preparing the asbestos will be equipped with all the improvements suggested by experience both in the matter of capacity and in the nature of the machines employed. As shown by the following figures, the proportion of fibre represents the largest tonnage, the value being 45 % of the total shipments. The utilization of the short fibres obtained through the mill represents the great strides made by the industry, and if we consider that all the output of the mines has been shipped and that nothing remains on hand, the future in store for asbestos will be realized, should the demand and the prices be maintained and no substitute for it arise.

Practically, there are two kinds of fibre, although given under the same figures, the second quality, known as paper-stock, being used in the

manufacture of paper. The refuse of the mills, or asbestic, gives rise to a special industry principally at Danville, and the demand for this product for the inside plastering of apartments seems to increase as its advantages become known.

The output of asbestos for the year 1900 may be summed up as follows, for the three districts of Thetford, Black Lake and Danville, in tons of 2000 lbs.

1st class crude.....	1,755 tons, worth	\$210,250
2nd " "	3,490 " "	182,640
Fibre.....	16,368 " "	326,526
<hr/>		
Total for asbestos	21,613 " "	\$719,416
Asbestic.....	7,935 " "	15,948

with upwards of 1000 hands employed, during an average of 10 months and earning a total of \$266,000 in wages.

This output was divided by districts as follows :

Thetford	15,477
Danville	3,136
Black Lake.....	3,000
<hr/>	
Total.....	21,613

The asbestic comes almost entirely from Danville. A few hundred tons of debris sent from Broughton were treated at Black Lake whence the fibre was shipped and is credited to the production of Black Lake in the above figures. A quantity was also shipped from Denholm in the Ottawa district, but it was chiefly of fibrous rock.

GRAPHITE.

The three graphite mills in the environs of Buckingham were inactive this year, for different reasons and this in spite of the demand for dressed graphite.

The Walker Company did not work but it shipped some barrels of graphite. The Buckingham Co. worked a little towards the beginning of the season, but shut down its works about the middle of the year. The North American Co. closed down in June for want of sufficient material to keep the mill going; 13 tons, worth about \$2500, were shipped from

Buckingham. The prospects for next season are good and it is said that an important company will establish a concentration mill on new principles.

Search has been regularly made in the neighborhood of Calumet, county of Argenteuil, for raw graphite, but of higher grade, which is thus shipped to be dressed in the United States and especially in New Jersey.

Keystone Graphite Co.—This company, composed of Americans, began last year to work on lot V, 10 of Grenville (county of Argenteuil) at a distance of 6 miles from Calumet station (C. P. R.). The deposit worked was formerly known under the name of the McVeity Mine. The graphite is found in a pretty pure state, in small veins or masses, in a crystalline rock. It is hand-picked on the spot and put in bags for shipment to the United States where it is treated and concentrated. The lots sent contain an average of from 35 to 55 per cent of pure graphite and it is paid for according to the grade. Since the company has been working, about 25 carloads have been shipped; from 16 to 22 men have been employed throughout the year. The work consists of a cutting about thirty feet deep joining the main deposit where, it is stated, a thickness of 2½ feet of solid graphite has been found at times. The work is done by hand without the aid of machinery. The same company has done some other prospecting on a small scale.

Some work has been done quite near Calumet Station by Mr. P. S. Page who took out 15 tons of graphite of a good grade. At the time of my visit further prospecting was being done not far from there by Mr. J. S. Drake with a few men.

The total quantity got out and shipped was 383 tons of raw graphite worth \$6,964, about 25 men having been employed. The whole was shipped to the United States.

SULFATE OF BARYTA

The Canada Paint Company worked the Foley mine in Hull for six months this year with 8 men and got out 460 tons of sulphate of baryta worth \$3,220; the whole was shipped to Montreal from East Templeton Station.

PHOSPHATE.

According to Mr. J. F. Higginson, of Buckingham, the following quantities of phosphate have been shipped from the Ottawa region:

120 tons of 80 % used in Ontario and 450 tons used in Quebec, making 570 tons in all.

This phosphate was got out by the miners mining for mica in Templeton and about 100 additional tons were got out.

Ore of a lower grade (50 to 60 %), coming from the old works, was also shipped as follows : 350 tons in Ontario and 450 tons in Quebec, making a total of 800 tons.

In both cases, the phosphate was used in manufacturing chemical products or fertilizers.

Taking the ordinary value, we have :

570 tons, high grade, at \$10	\$5700
800 tons, low grade, at \$ 4	3200
<hr/>	
Say 1370 tons, worth.....	\$8,900

Although the consumption of phosphate throughout the world has not diminished, the prices offered are not high enough to encourage our people to re-open the Ottawa mines.

A certain quantity of high grade phosphate of the purest variety was used in the manufacture of phosphorus by the Buckingham Electro-Reduction Works.

MICA

During the first part of the year, the condition of this industry was very good : mica, especially the small size 1x3, was sold for as much as 15 cents per pound. At the end of the season buyers seem to have offered much lower prices with the result that nearly by all the mines were shut down. This fall in prices seems to have been due to a commercial operation for, from inquiries I made, I cannot see that any absolute substitute for mica has been found. Although it is stated that some work has been done in old mica mines in the United States, I see nothing to justify the permanent shutting down of this industry in Canada. We may therefore hope to see the mines re-opened in the spring and an agreement come to between the miners and the consumers of mica.

For some years past the mica debris have been used in making lagging for steam-boilers, steam pipes, etc. Their use seems to have greatly developed and the company that started this industry in Canada, The Mica Boiler Covering Company Ltd., Toronto, has found it necessary to

establish branches in Montreal and London, England. I visited the Montreal establishment, No 85 Ann street. These shops, which employ 50 workmen, consume more than a ton of raw mica daily and have a set of machines driven by steam, some of which are specially patented. These machines clean the mica, separate and corrugate the sheets and then distribute the mica to another set of machines in which a kind of mat is made, pressed between wire netting.

The principle of non-conductibility rests on this property of mica and also on the compressed air between the sheets of corrugated mica which are but slightly compressed. The corrugating of the mica also gives more consistency to the mat by preventing the sheets from slipping.

The company has published a small pamphlet mentioning the trials made by railway and other companies, together with the opinions of many customers and tables of comparison with other insulators and the following advantages have been found to exist :

Well-established non-conducting property ;

Duration of the material used ;

Facility of using and of replacing ;

Absence of substances liable to injure the covered parts ;

Low price.

The company makes lagging for stationary boilers, for steamship or locomotive boilers of the dimension of 36 inches by 8, which is merely held between two nettings of galvanized iron wire and also covering, 30 inches long, for pipes from half an inch in diameter upwards. This pipe-lagging is covered with a canvas covering that is laced up when put on.

It also makes special patterns for tees and elbows, the mica being mixed with an agglomerating substance.

This lagging is used by many railway and other companies, amongst which may be mentioned the Canadian Pacific, the Grand Trunk, the Intercolonial, etc., etc.

The company states that an order has been received from the English Admiralty for lagging the boilers, pipes, etc., of the new war-ship the *Drake* ; other orders have likewise been received from English

railway companies, such as the Great Eastern R. R., the London and North-Western R. R.

The company uses, this year, a quantity of 350 tons of mica debris for which it pays from \$4 to \$5 per ton on the cars, white and non-breakable mica being preferred.

The following mines were worked during the year :

TEMPLETON

Work on an extensive scale was done at the Blackburn Bros' mine, necessitating the employment of from 50 to 60 men throughout the year. Open workings are still being carried on in the large excavation that now includes the old workings. A depth of 130 feet has been reached and the rock and mica are removed by means of two cable derricks. An air compressor has been put up to feed 7 drills and a 70 horse-power boiler. Fine mica is visible in the direction of the old workings. Since the 1st December the number of men has been increased to 85 and work is done at night.

Wattlingford Bros & Co. have worked with a small number of men and have nevertheless got out a good quantity of fine mica. A number of men, averaging 13, were employed during the first 6 months in developing the property with a view to future operations. The company has also acquired the ownership of lots X. II 4, 5 of Templeton near Battle Lake and has also done some prospecting with 4 men.

Chs. Meyer and others are working on lot IX $\frac{1}{2}$ N. 4 (Sophia mine) formerly worked by the Lee Syndicate and 10 men have been employed there since the month of May. They are working an almost perpendicular lead by means of a shaft of about a hundred feet and have taken out a good quantity of mica. Surface prospects also show many indications of mica. The average size of the mica is 1 x 3 and 2 x 8.

The L. McLaurin & J. McLaren Company has worked since the beginning of the season on lot X. 7, also on lot 10 (Jubilee Mine) of the same range and, at the end of the year, it began to work on lot X. 16 (Victoria Mine). About thirty men were employed there and a good quantity of mica was got out and sold. The company's store houses are at East Templeton.

X. 8. The old Marsobais phosphate mine (Lucky Jack Mine). In October Messrs. Haycock and Powell began to work the old debris and

put up a steam pump for the purpose of emptying the old shaft 90 feet deep and of getting out the mica that had been left there while mining for phosphate was being carried on. About 10 men with a horse-derrick were working at the time of my visit.

The Star Mining Company worked on lot (XII) 18 with 12 men and got out a good quantity of mica. It also prospected on lot I, 18 of Wakefield.

VIII. 10. This mine, which was worked last year by Messrs. Jos. Fortin and others, was worked again this year by Mr. J. E. Asquith, of Ottawa with about 20 men and he put up a steam engine and pump. A good quantity of mica was got out.

HULL

Some important work was done in the region of Hull Mountain.

Fortin & Gravel, VII $\frac{1}{2}$ N. 18—This mine, which was opened last year, shows a considerable quantity of large sized and fine mica. A first shaft was sunk to a depth of 90 feet and abandoned, being full of water. Another shaft of 20 feet, sunk in the immediate vicinity, shows the bottom partly covered with mica of large dimensions. In the winter of 1900, about 20 men were employed; this number was reduced to 9 and it was proposed to put up a steam pump for the purpose of emptying the large shaft. The mica is conveyed to Hull where it is prepared for the market. The company has a considerable quantity of mica on hand, a good deal of it being of large dimensions. The mine was shut down for the winter.

Brown Bros. worked for the greater part of the year with from 8 to 10 men in the following mines, about the same region: Aberdeen (VII $\frac{1}{2}$ S. 19a and 19b); Cliff (VI 20a); Eva (VII $\frac{1}{2}$ N. 18.)

A fair quantity of mica of good quality was got out and a portion of it was shipped. About fifty tons of phosphate were taken out. The company's place of business is in the village of Cantley where the store-houses and sorting shops are.

In the vicinity of the Fortin & Gravel mine, the prospects mentioned last year were continued by Mr. Fleury (VII $\frac{1}{2}$ S. 20); Bayley (VI $\frac{1}{2}$ N. 19) and some others.

In the Cantley region the Nellis mine was worked with 6 or 7 men and a shaft of 130 feet was sunk, limestone being found at the bottom.

A certain quantity was got out but the chief object of the work was the development of the mine.

The Powell mine was worked with a few men.

OTHER TOWNSHIPS

The Mica Mining and Manufacturing Company worked the Lake Girard mine after pumping the water out; it got out a good quantity of fine mica, in addition to the debris, 30 men being employed. The same company also worked on lot Hull X. 23. The shops are at Ottawa, where some women and boys are employed in sorting. A considerable quantity was got out by this company.

The Eddy Sills Company did some work at the beginning of the season, amongst other places at the St. Anthony mine, near Gracefield. It abandoned this mine in the month of August on the expiration of the contract with the owner. The depth then reached was 95 feet and the machinery was taken away. The indications are said to have been good. It also rented all the properties belonging to Mr. A. Murphy, and did some prospecting on lot Templeton X $\frac{1}{2}$ S. 10 and in the Gore. All these works were stopped in the autumn.

Webster & Co., worked the Cascades mine with about 12 men and also the Chaibee Mine in Wright, formerly worked by Mr. Watters with 18 men. The shops of this company are in Ottawa where about 30 persons, chiefly women, are employed.

In the region forming the angle of the townships of Derry, Portland East and Buckingham, are old phosphate mines, known as the Newton properties, which were worked by several companies prior to 1889. The mica of this region had been neglected until of late years when regular work was done, promising a fair future.

The Glen Almond Mica & Mining Company began working towards the end of 1899, on lots II. 2 and 3 of Derry, formerly worked for phosphate and got out a large quantity of mica but it was much broken. This lot was abandoned and work was done on lots III. 3, 4 and 6 which had already been worked, a good quantity of mica being obtained. This property has been put in good order and offers advantageous indications. During the course of the year the company acquired lots I. 1, W. 1 and 2 of East Portland also formerly worked for phosphate. The company, under the management of Mr. F. S. Shirley, has been developing this property since the month of August with about 12 men and has got out an

important quantity of mica of good dimensions. When I visited this mine, the works consisted of openings made in a mountain where calcite predominated and which presented numerous indications of mica. Some mica was prepared and I saw pieces of $3/5$ and $4/6$. The company proposed to continue its works by developing them, the indications being good and offering prospects of success.

Other works were carried on in the same district during the summer with a fair profit on lot $1\frac{1}{2}$ E. 1 of Portland East by Mr. J. Poupore, of Ottawa and on 1, 7 of Derry by Mr. Dan. Cameron.

Mr. W. A. Allan, under the name of the Allan Gold Reef Company Ltd., opened a mine in the autumn on lot 1, 9 of Derry. About 7 men were employed there for 3 months and about ten tons of unmanufactured mica were got out. The work consists of surface cuttings and shallow excavations and the work is done by hand. The distance to the village of Buckingham is 14 miles. A little pyrites of iron slightly magnetic and green fluor are observed in this mine.

Lots IX 5 and 6 of Portland West continued to be worked successfully by Mr. Angus Cameron of Buckingham who got out an important quantity of fine mica as well as a little phosphate which was utilized by the Buckingham Electric Reduction Works.

Some slight prospects were made on lots III. 14. 15. 16 near Lake Terror.

In Wakefield—11. 16 the old Kodak Mine was worked in the autumn with 6 men by the Wakefield Mica Company, producing a small quantity of mica.

The Mulligan Mine in Aylwin II 4 was successfully worked by Mr. Richard Moore for six months with 20 men, the ordinary quality of colored mica being got out. A portion was sold and the remainder is still on hand. A great deal of large sized mica was found.

Mr. Moore, in partnership with Mr. Webster, also did some work in the Ithier Mine on lot 11. 21 of Lytton. This work was done during three months with 17 men, a good quantity of mica being got out but not sold.

Lot IV $\frac{1}{2}$ N. 25 of Buckingham near l'Ange Gardien station, was worked by Damien Richer & Co. with 5 or 6 men for 6 months, several tons of small-sized mica being got out, but the mine was abandoned.

Work was also done on lot 1. 4 of Villeneuve and Denholm B. 19—1. 1—V. 20. 21. 22.

In the county of Pontiac—Waltham A. 7 and 8., work was done, producing small quantities of mica.

Prospecting was also done in Aldfield VIII 53. Cawood V. 42.

Prospecting licenses were granted, in the following townships :

COUNTY OF OTTAWA

Blake VI. 52 VII. 25. 26. 30. 31. VIII. 22. 23. 25. Denholm A 10. $\frac{1}{2}$ N. 20. B. $\frac{1}{2}$ N. 18. $\frac{1}{2}$ N. 19. 1. 2. 3. 10. V. 5. 20. 21. 22. Templeton XI. $\frac{1}{2}$ N. 17. XII. 24. Gore 14. $\frac{1}{2}$ S. 18 19. Bouchette IX 35. 36. Portland West III. N. 14. 16. Portland east VI. S 13. S. 14. X. 5. 6. Aylwyn III 1. Wakefield IV. $\frac{1}{2}$ S. 11. VI. $\frac{1}{2}$ N. 12. 26. X. $\frac{1}{2}$ S. 27. VI. $\frac{1}{2}$ S. 11. Hincks II. 11. VI. 52 XI. 13. 14. 15. XII. 15. Derry II. 21. Lochaber IX. $\frac{1}{2}$ N. 19. Villeneuve II. $\frac{1}{2}$ O. 1 V. 22. Mulgrave VI. S. $\frac{1}{2}$ 42. 43. Bigelow V. 52.

COUNTY OF PONTIAC

Sheen V. S. 1. VI. 10. 11. 12 14. 15. Clapham IV. 47. 48. V. 48. 49. VII. 46 Bryson A. 7. 8. Cawood VI. 13. $\frac{1}{2}$ N. 14. $\frac{1}{2}$ N 15 Gendreau N. Gordon Creek 6. 7. Leslie I. 18. $\frac{1}{2}$ N. 19. II. $\frac{1}{2}$ S. 19 Litchfield XI $\frac{1}{2}$ N. 9. $\frac{1}{2}$ 11. $\frac{1}{2}$ N. 16. $\frac{1}{2}$ N. 17. Aldfield VI. $\frac{1}{2}$ S. 54. Chichester VI. 50 Pontefract IV. N. N. $\frac{1}{2}$ 3. N N. $\frac{1}{2}$ of O. $\frac{1}{2}$ 4. V. 1. 3. S. 3. 1/3 S. 4. VII $\frac{1}{2}$ N. E. 7.

COUNTY OF ARGENTEUIL

Wentworth N. $\frac{1}{2}$ E. 20. Harrington V. $\frac{1}{2}$ N. 21. $\frac{1}{2}$ N. 22.

Mining licenses were granted, in the following townships :

Cawood V. S. W. 41. S E. 42. VI. S. 18. N. W. 43. Pontfract IV. $\frac{1}{2}$ W. 4. Denholm B. pt. 12. I. 1. Portland West III. N. 14. Wakefield IV. N. 25. Lytton IV. 21. Aldfield VIII. 53. Bryson A. pt. 7. pt. 8. Harrington VIII. $\frac{1}{2}$ N. 11. Wentworth X. 19.

During the year 1900, notwithstanding the favorable indications of the early part of the season, the production or, at least the quantity shipped, was less than in 1899. Twenty-seven companies or individuals mined for and got out mica in very variable proportions while some persons mined without getting anything. Prospecting licenses for mica

to the number of 102 and 14 mining licenses were granted and 350 persons were employed in the mines besides those who were engaged in sorting in Ottawa, in transporting and in prospecting, making a total of 500 for periods varying from 3 to 8 months.

According to the Tables of Trade and Navigation there was shipped during the fiscal year ending on the 30th June 1900, a quantity of 1,079,353 lbs of mica of the stated value of \$136,352. These figures apply to mica from the provinces of Ontario and Quebec, and it was shipped principally to the United States, the chief shipping port in Canada being Ottawa. The reports received from the companies working in this province give the following summary :

1"/3" thumb-trimmed.....	338,200 lbs worth.....	\$31,860
2"/3" " "	92,359 " "	18,534
2"/4" " "	71,832 " "	24,953
3"/5" " "	25,637 " "	15,706
4"/6" " "	11,762 " "	11,451
5"/8" " "	1,995 " "	2,696
Total.....		541,285
Say 270½ tons.		\$105,200

To this figure must be added a certain quantity of mica prepared but not sold, still remaining in the hands of the producers and representing 64½ tons of thumb trimmed mica of various dimensions but generally large-sized, worth \$33,400 at the average market prices of the year, making a grand total of 335 tons, worth \$138,600, besides about 150 tons of rough culled mica estimated to be worth \$25,000. The prices of thumb-trimmed mica sold by the barrel have varied very much from the beginning to the end of the year, having fluctuated between the following limits :

	cts.	cts.
1"/3"	7 to	15
2"/3"	18 to	35
2"/4"	30 to	40
3"/5"	45 to	60
4"/6"	75 to	1.00
5" 8" and over from \$	1.5	upwards.

It will be observed that during the year the demand for small sized mica was greater than that for the large sized.

Hitherto the United States have been our principal market but if we notice that in England alone in 1900, over a million dollars worth of mica was used, it will be seen that it would be in our interest to endeavor to ship to the European market which gets its supplies from India, Canadian mica being at least equal to Indian for electrical purposes.

The production of mica in the United States for 1899 was 108,570

lbs. of mica in sheets, worth	\$ 70,587
And 1,505 tons of scrap, worth	30,878

The imports were 1,709,839 lbs. of unmanufactured, worth.....	233,446
And 67,293 trimmed.	42,538

Total imports.....	\$275,984
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PETROLEUM.

I have but little to say with reference to the companies prospecting for petroleum in Gaspé as I did not visit that region. According to information I have obtained, the Petroleum Oil Trust stopped its borings in October; the Canada Petroleum Co. continued boring a well this winter but afterwards suspended work; this company finished its refinery during the year and the latter yielded about 70 barrels of oil. I know nothing of what is being done at present.

PEAT.

In the last report of the Ontario Bureau of Mines, it is stated that this industry is tending towards an important development. Several companies have been organized and are preparing compressed peat which is said to find a ready market. In our province some experiments have been made in this direction but the manufacturing stage has not yet been reached. As we possess extensive peat-fields yielding a good quality of peat, it would be desirable that this industry be established here, especially when we consider how important the question of fuel is at the present day.

From another standpoint I called attention in previous reports to the value of peat as a possible source of supply for pulp. Trials made in Europe have proved that pulp can be made out of peat and it would be desirable that similar trials be made in this country.

A company with a capital of \$100,000 has just been organized at Fraserville under the name of *The Canada Peat Fuel Company, Ltd.*

I am told that an Ontario syndicate will begin work, next spring, on the great peat-bog of Rivière Ouelle and will put up machinery for the purpose.

MISCELLANEOUS

No work has been done this year in connection with the indications of molybdenite or with natural gas. Some working was done under contract in connection with the feldspar on lot VIII, 26 of Templeton. The New Rockland Slate Company suspended work in May. Flag stones were quarried as usual in Dudswell.

GRANITE.

Granite was quarried by the same companies as last year at Stanstead, Whitton, Rivière à Pierre, St. Philippe, but an important quarry at Rivière à Pierre must be added to the list. The old quarry belonging to Jean Voyer & Fils has been leased to Mr. M. P. Davis, 564 Rideau street, Ottawa, who will require from 4,000 to 5,000 carloads of stone for the piers of the Quebec bridge. Arrangements have been made to obtain a sufficient supply from this quarry; a branch railway about a mile long has been built to connect the quarry with the Lake St. John railway and steam machinery has been put up for drills, derricks and inclined planes.

The stone is obtained from a hill 100 feet higher than the railway and the quarry is being opened so as to have a face 300 feet long by 35 feet high, the beds being about 10 feet thick. The granite, which is detached in large blocks from these beds, is afterwards cut into pieces of suitable dimensions, being from 2 to 4 feet and over, which are lifted by a steam derrick with an arm 56 feet long and placed on small trucks by which they are conveyed to the cutters and laid on the ground by another derrick. When the blocks are squared, they are again placed on trucks which run down an inclined cable railway with powerful brakes to the level of the track where they are loaded on ordinary cars capable of carrying 60,000 lbs. The granite is then conveyed to the wharves in Quebec where it is loaded on barges capable of carrying 150 tons which are towed to Cap Rouge where the bridge is being built.

The Rivière à Pierre granite weighs 175 pounds to the cubic foot. It is very compact, with coarse crystals, is of a greyish color, is easily cut and possesses all the necessary qualities for heavy building work. It also takes a fine polish as may be seen by what has been used for ornamental stone in building some houses in Quebec.

When I visited the place at the beginning of November, 90 workmen were employed, 40 being stone-cutters and when the quarry will be fully developed there will be 15 derricks in all (there are at present 8 with 6 steam engines) and about 300 men in all will be employed. The men were then working 9 hours a day and were getting \$1.15 and \$1.25 a day. In summer they work 10 hours and get \$1.30 and \$1.50; the men employed at the engines being paid \$1.75 and \$2.00 and the stone-cutters by the piece at the rate of \$2.75 per cubic yard.

This is a very important undertaking and the quarry which is in a very fine situation can meet all demands and supply all dimensions of first class material.

In addition to this quarry there are two other small ones at Rivière à Pierre; one worked by Messrs. Jean Voyer & Fils, with 15 men, and the other by Mr. Joseph Perron, with 10 men.

The Stanstead Granite Company, also worked this year at Mount Johnson.

Throughout the province, the quantity of granite shipped or quarried for shipment represents an amount of \$65,000; this industry gives employment to 170 workmen for periods of from 6 to 10 months, an amount of \$57,350 being paid in wages.

CEMENT.

The great fire in Hull on the 26th April, 1900, destroyed the cement mill of Wright & Co., in Hull, which has not been rebuilt.

The Crescent Cement Works carried on operations throughout the year, producing a considerable quantity and employing about 40 men. This factory is at Maisonneuve near Montreal, and it uses the Trenton limestone found on the spot. This limestone is crushed dry in a ball grinder and a suitable proportion of clay is added. The material is then conveyed to a rotary kiln from 30 to 40 feet long whence an elevator takes it up and conveys it to a grinder similar to the above mentioned one from which it is placed in barrels made by the company. This establishment, the only one in the province, uses steam machinery and the product is consumed in the provinces of Ontario and Quebec.

At Lake Weedon, on the Quebec Central Railway, the Canada Lime and Cement Company is putting up machinery for making a kind of

cement similar to the Portland cement and the company reports that a small quantity was shipped this year.

LIME.

During the year I have endeavored to obtain figures in connection with the production of lime in the province and I am able to give the following information :

Lime is made wherever limestone crops out on the surface, especially in the vicinity of large, populous centres. North of the St. Lawrence the out-crop of Trenton limestone after showing itself at Malbaie, Baie St. Paul, St. Anne and Beauport, starts from Quebec and continues almost regularly to Montreal, re-appearing at Hull in our Province. On the South shore it is found in the counties of Laprairie, Napierville, Iberville and at St. Dominique, South East of St. Hyacinthe. The same limestone is found South of Lake St. John at Chambord. This limestone generally furnishes an argillaceous lime very suitable for building purposes. Another important limestone formation is found in Dudswell, county of Wolfe. In the Laurentian formation deposits of white calcite are found producing fine pure lime which could be utilized in the pulp industry and which is used in some places as marble or for making lime, particularly near Bryson and Maniwaki.

The great centres of lime industry are therefore : Hull, Mile End (Montreal), Beauport (near Quebec), and Dudswell (near Sherbrooke), with many kilns in all the districts mentioned above.

The following, which are the most important companies, manufacture from 1,000 to 11,000 tons a year :

Dominion Lime Company,	Dudswell.
F. G. Brigham,	Ottawa.
H. Gauthier & Co.,	Montreal.
Cyrille & Gervais,	"
Olivier Limoges,	"
Montreal Lime Company,	"

There is not a company of any importance in the neighborhood of Quebec but there are about 25 kilns belonging to private individuals which burn from 300 to 400 bushels a year and employ 30 men for periods of from 1 to 6 months. Nevertheless one kiln is mentioned which burns 2,000 bushels. I count the weight of quick-lime as being 70 lbs and its average price 14 cents.

My estimate has led me to take, for the whole province, a total of 200 lime-kilns, employing 350 men for periods of from 1 to 10 months and producing in round numbers a total of one million bushels, worth \$140,000.

BRICKS.

As in the case of lime, I have endeavored to obtain fairly accurate figures regarding the production of bricks and I can give the figures as being approximately the same as those mentioned in my previous reports, say 120 millions as the production during the year. The districts which produce the greatest quantity are those of Montreal and Quebec where important companies manufacture several millions each. After them comes St. Jean Deschaillons, which produces about 20 millions, distributed amongst a certain number of persons, each of whom makes under a million, with the exception of two companies.

I give below a list of the companies that turn out over a million bricks :

Thos. W. Peel & Co.—	Montreal
J. Brunet & Co.	"
Chs. Sheppard & Son,	"
Joseph Bernier,	"
Joseph Descàries,	"
Laprairie Pressed Brick Co.,	Laprairie
Narcisse Blais,	Quebec.
C. Rochette,	"
Frs. Grenon,	"
Paradis & Létourneau,	"
Laliberté & Fils,—	St. Jean Deschaillons.
E. V. Charland,	"

BUILDING STONE

The building stone, other than granite, which is used, consists chiefly of limestone from the regions mentioned above from which lime is obtain-

ed. I may especially mention St. Alban, Mile End, Hull. The production represents about \$530,000.00 and 700 men are employed.

TABLE CONTAINING A SUMMARY OF THE PRODUCTS OF MINES IN THE PROVINCE OF QUEBEC FOR THE YEAR 1900

KIND OF ORE	Wages p. 11	Number of workmen	Quantities produced shipped or utilized	Gross value of ore shipped or utilized
Magnetic iron ore (long tons)		10	1550	\$875
Bog iron ore do		120	17186	34472
Calcareous ochre (tons of 2,000 lbs)		52	1182	910
Chromite iron (long tons)	\$ 21,000	130	2068	93119
Low grade copper do	79,000	270	33742	140132
Galena do		24	296	87384
Asbestos (tons of 2,000 lbs)	265,000	1911	2148	719116
Asbestos do			7935	15918
Graphite, prepared (tons of 2,000 lbs)			13	2500
Graphite, raw do		25	388	6964
Phosphate do			1350	8000
Mica (thamb rimmed) do	74,000	500	345	138600
Mica not prepared do			150	25000
Feldspar do			147	411
Sulphate of baryta do		8	463	3220
Slate do		60	915	19131
Flag stones (square yards)		9	4090	3500
Cement (barrels)	11,000	10	22100	36570
Granite	57,250	170		6,000
Totals		2158		1,276,76

Lime (bushels)	350 workmen	1 million	\$140,000
Bricks	1,200 "	120 "	600,000
Building stone	700		530,000

Totals

Grand totals

Charcoal pig-iron (tons) 700 6748½ tons.....\$ 134,971

The total production therefore for the year amounts to a value of \$2,546,076 for the mines and quarries of the province, employing 5,400 workmen for periods of from 3 to 12 months, the amount of the wages paid representing about \$1,300,000.

QUANTITY AND VALUE OF MINERALS EXPORTED FROM CANADA DURING
THE FISCAL YEAR ENDING 30TH JUNE, 1900, ACCORDING TO THE
OTTAWA TABLES OF TRADE AND NAVIGATION AND WHICH MAY APPLY
TO THE PROVINCE OF QUEBEC.

Asbestos—1st class.....	1,419 tons	worth	\$ 89,655
" —2nd "	4,276 "	.....	205,712
" —3rd "	12,469 "	.....	195,542
Total	18,164 "	.....	\$ 490,909

Mica—(Knife trimmed).....	311,104 lbs.	worth	\$7,024
" —(thumb trimmed).....	767,648 "	.....	99,308
" —(ground)	601 "	.....	20
Total.....	\$1,079,353	"	\$136,352

(A portion of the mica comes from the Province of Ontario.)

Feldspar.....	218 tons	worth.....	\$ 624
Chrome	1,196 "	.....	16,345
Phosphate.....	149 "	.....	2,282
Pyrites.....	14,889 "	.....	32,499
Ochre.....	607,506 lbs.	"	7,590
Charcoal pig iron.....	1,825 tons	"	45,918

As usual the railway companies have kindly supplied us with information regarding the quantities of mineral products shipped from the stations on their lines.

MINERAL PRODUCTS SHIPPED FROM THE CANADIAN PACIFIC RAILWAY'S
STATIONS IN THE PROVINCE OF QUEBEC:—

Asbestos.....	3948 tons.
Baryta.....	325 "
Mica.....	59 "
Graphite	396 "
Phosphate.....	1052 "
Iron ore.....	13162 "
Bricks and lime.....	24161 "
Stone.....	27490 "

The asbestos comes chiefly from Sherbrooke in transit from the Quebec Central Railway with a small quantity, probably in the rock

state, from Templeton. The other products come from the Ottawa region. The iron ore is chiefly bog ore shipped from various places for the blast furnaces.

QUEBEC CENTRAL RAILWAY

Bricks	6781	450
Lime	8276	2000
Flag stones	1825	1370
Cement	3	2000
Chrome	2336	1700
Asbestos	19970	2000
Granite	1232	2000

The bricks are shipped chiefly from Ascot; the lime and flagstones from Dudswell; the chrome from Black Lake and a little from Colrairie; the asbestos from Thetford, from Black Lake and a little from Broughton; the granite from St. Samuel and Ste Cécile.

QUEBEC AND LAKE ST. JOHN RAILWAY

Bricks	280	cars
Stone	808	"
Lime	25	"
Iron ore	12	"

The stone comes chiefly from Rivière à Pierre; the other products come from various points on the line.

OTTAWA AND GATINEAU RAILWAY

Mica	2,172,810	lbs.
Asbestos	88,700	"
Iron ore	3,101,600	"
Stone	19,724,000	"

The mica comes from Gracefield, Kazubazua and some other stations; the asbestos from Denholm, shipped from Low station; the iron ore from Ironside; the stone from Hull chiefly.

PONTIAC AND PACIFIC JUNCTION RAILWAY

Mica	800,400	lbs.
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The mica comes from various points on the line, chiefly from Campbell's Bay. It is shipped in the raw state as is also that on the Gatineau line.

LIST OF MINING COMPANIES IN THE PROVINCE OF QUEBEC IN
OPERATION OR IN A POSITION TO WORK DURING THE
YEAR, WITH THEIR ADDRESSES

IRON

J. O. Hibbard—84, Argyle Avenue, Ottawa.

CHARCOAL PIG-IRON

The Canada Iron Furnace Co.—Radnor Forges, Co. St-Maurice.
Geo. McDougall—Drummondville, Co. Drummond.

OCHRE

The Canada Paint Co.—572 William Str., Montreal.
The Champlain Oxyde Co.—(Lucien Carrignan) Three Rivers.

CHROMIC IRON

Compagnie Minière de Colrairie, Ltd.—7, Place d'Armes, Montreal.
The Colrairie Chrome Co.—W. Lambly, Inverness, Co. Megantic.
The Canadian Chrome Iron Co. Ltd.—Colrairie, Co. Megantic.
Beebe & Co.—Black Lake, Co. Megantic.
J. Nadeau & Co.—Black Lake, Co. Megantic.

COPPER

Eustis Mining Co.—Eustis, Co. Sherbrooke.
The Nichol's Chemical Co. of Canada, Ltd.—Capelton, Co. Sherbrooke.
Dominion Mining & Smelting Co.—(John McCaw), Sherbrooke.
James Reed, Reedsdale, Co. Megantic.

MOLYBDENITE

J. P. Logue, jnr.—Maniwaki, Co. Ottawa.

LEAD, ZINC, SILVER

Grand Calumet Mining Co. of Canada, Ltd.—Bryson, Co. Pontiac.
A. McDonald, Sherbrooke, Co. Sherbrooke.

The Canadian British Lead Mine Co.—Lake Temiscamingue, Co. Pontiac

GOLD

Beauce Syndicate—St Francis, Co. Beauce.

The Gilbert Beauce Gold Mining Co.—(Ph. Angers) St Francis, Co. Beauce

William De Léry St Francis, Co. Beauce.

Stanley C. C. Currie—St George, Co. Beauce.

McArthur Bros.—(E. Harper Wade), 14, St James Str., Quebec.

C. A. Parsons—154, Commercial Str., Boston, Mass., U. S.

GRAPHITE

The Walker Mining Co.—Graphite City, Buckingham, Co. Ottawa.

The North American Graphite Co. Ltd.—Buckingham, Co. Ottawa.

The Buckingham Co. (Buckingham), Co. Ottawa.

Keystone Graphite Co.—Calumet, Co. Argenteuil.

ASBESTOS

Bell Asbestos Co. Ltd. Thetford, Co. Megantic.

King Bros, Co. Ltd. Thetford, Co. Megantic.

Johnson Co.—Thetford, Co. Megantic.

The Beaver Asbestos Co.—Thetford, Co. Megantic.

Anglo-Canadian Asbestos Co. Ltd.—(R. T. Hopper), 38, Canada Life Building, Montreal.

Canadian Asbestos Co. Ltd.—(W. Slater), Black Lake, Co. Megantic.

Union Asbestos Mine—Black Lake, Co. Megantic.

United Asbestos Co. Ltd. Black Lake, Co. Megantic.

James Reed—Reedsdale, Co. Megantic.

The Asbestos & Asbestic Co. Ltd.—Danville, Co. Richmond.

The Ottawa Asbestos Mining Co.—514, Sussex Str., Ottawa

PHOSPHATE

J. F. Higginson—Buckingham, Co. Ottawa.

PETROLEUM

The Petroleum Oil Trust, 1 E. London.—(C. B. K. Carpenter), Gaspé Basin, Co. Gaspé.

The Canada Petroleum Co. Ltd.—Gaspé Basin Co. Gaspé.

FELDSPAR

W. A. Allan, Victoria Chambers, Ottawa.

SULPHATE OF BARYTA

The Canada Paint Co. 572, William street, Montreal.

SLATE

New Rockland Slate Co.—New Rockland, Co. Richmond.

FLAG STONES

F. R. Bishop—Bishops' Crossing, Co. Wolfe.

CEMENT

Crescent Cement Works—(Th. M. Morgan), Longue-Pointe, Montreal.

GRANITE

Stanstead Granite Co.—Beebe Plain, Co. Stanstead.

S. B. Norton " "

James Brodie " "

The Whitton Granite Quarry Co.—St. Samuel, Co. Compton.

Fitzgerald—Ste. Cécile, Co. Compton

W. Jean Voyer & fils—Rivière à Pierre, Co. Portneuf.

Joseph Perron—Rivière à Pierre, Co. Portneuf.

M. P. Davis,—565, Rideau Str., Ottawa.

The Laurentian Granite Co. St. Philippe, Co. Argenteuil.

MICA

Wallingford Bros—Perkins Mill, Co. Ottawa.

Blackburn Bros. 46, Sussex Str., Ottawa.

Sills Eddy Mica Co. —398, Wellington St., Ottawa.

Mica Manufacturing Co. Ltd.—(Frank Fuller). 213, Dalhousie Str.,
Ottawa.

Vavassour Mining Association —(T. F. Nellis), 2., Metcalf Str., Ottawa.

Webster & Co.—274, Stewart Str., Ottawa

Lila Mining Co.—(D. L. McLean) 51, Sparks Str., Ottawa.

W. F. Powell—419, Sussex Str., Ottawa.

E. B. Haycock—49, Cooper Str., Ottawa.

Brown Bros.—Cantley, Co. Ottawa.

J. Fortin—Hull, Co. Ottawa.
Angus Cameron—Buckingham, Co. Ottawa.
Lewis McLaurin—East Templeton, Co. Ottawa.
Richard Moore—Pickanock, Co. Ottawa.
Chas. L. Meyer—Victoria Chambers, Ottawa.
J. E. Askwith.—24 Alexandra Str. Ottawa
Joshua Ellard Pickanock, Co. Ottawa.

PURCHASERS OF MICA

Sills Eddy Mica Co.—388, Wellington str., Ottawa.
Webster & Co.—275, Stewart Str., Ottawa.
Eugene Munsell & Co.—332, Wellington Str., Ottawa.
Canadian Mica Co.—486, Sussex Str., Ottawa.
Chicago Mica Co.—233 Wellington Str. Ottawa.

LEGISLATION

During the last session of the Legislature (1901), the Mining act was amended as follows :

1. The Crown abandons its rights to mines, except as regards gold and silver, on lands patented previous to 24th July 1880, but only in the townships and on those in connection with which all the conditions for obtaining letters patent had been fulfilled prior to that date.

2. The right of pre-emption granted to surface-owners is abolished for all mines belonging to the Crown in townships as well as in seigniories.

3. In the case of private lands, whether the mines belong to the Crown or to any person other than the surface-owner, expropriation is effected in the manner set forth in the Mining Act.

4. The provisions of the act of 1892 remain the same with regard to the price of mining lots, licenses etc.

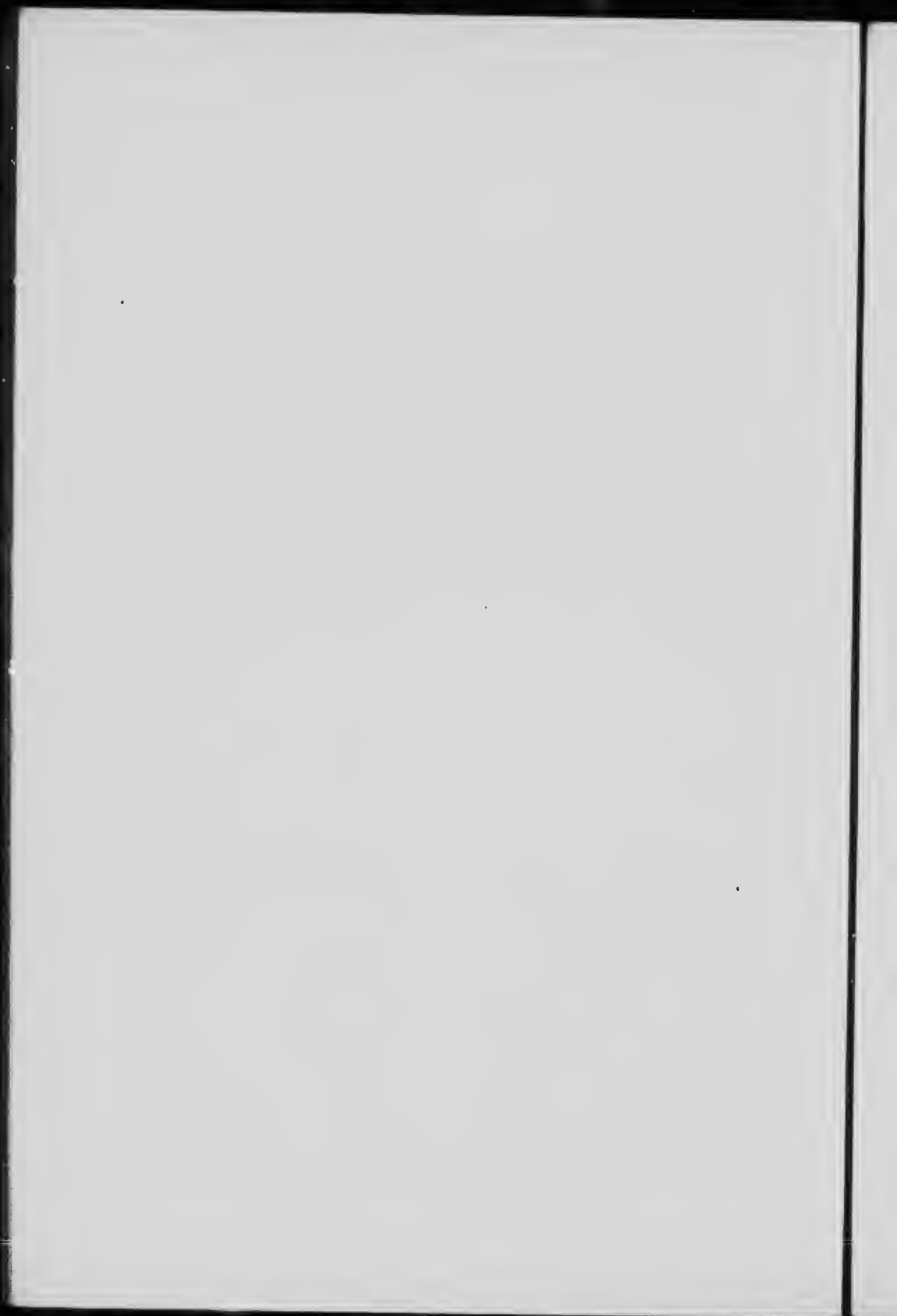


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