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PROVINCE OF QUEBEC, CANADA

Department of Mines and Fisheries

BUREAU OF MINES

Honourable O. GAGNON, Minister

L.-A. RICHARD, Deputy-Minister

A.-O. DUFRESNE, Director of Mines

PRELIMINARY STATEMENT

on the

MINERAL PRODUCTION

of the

PROVINCE OF QUEBEC

During the Calendar year 1936



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QUEBEC

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Honorable G. GAGNON, Minister
A.-O. DURRANT, Director of Mines

NOTE

The purpose of this preliminary statement is to present to the interested public, the figures of production at as early a date as possible after the close of the year, as statistics gain much in usefulness by an early publication. The figures are given "subject to revision", as our returns are not quite complete. The final statistics will be given, as in the past years, in the Annual Report of the Quebec Bureau of Mines for 1936, Part A, entitled "Mining Operations and Statistics", which will follow in a few weeks, and in which will also be found detailed notes on the mines, geological field-work, inspection of mines and mining accidents.

The ton used throughout is that of 2,000 lb. except when otherwise mentioned. Values are given in Canadian funds.

QUEBEC BUREAU OF MINES.

Quebec, March 4th, 1937.

PRELIMINARY STATEMENT

ON THE

MINERAL PRODUCTION

IN THE PROVINCE OF QUEBEC

IN 1936

The annual mineral production of Quebec for 1936 reached a new record figure, with \$49,535,495, thereby exceeding the previous peak, \$46,454,820, of the year 1929 by nearly 7 per cent.

The improvement in the general industrial and trade conditions in Canada, was very marked throughout the year under review; the prices of all metals appreciably increased and stimulated Quebec's metal mining to the greatest activity yet experienced in its history.

The production of non-metallics has recorded a large increase, of over 40 per cent, in 1936 as compared with 1935. The shipments of asbestos have risen from 210,467 tons to 301,287, and magnesitic dolomite has increased from a value of \$486,084 to \$769,176.

The Building materials class of minerals, however, is lagging behind, but it is hoped that the delay in recovery is coming to an end, and that 1937 will see the beginning of a revival of construction, both residential and industrial.

ANNUAL VALUE OF THE QUEBEC MINERAL PRODUCTION
1925-1936

YEAR	VALUE	YEAR	VALUE
1925	\$23,824,912	1931	\$36,051,366
1926	25,740,002	1932	25,683,066
1927	29,124,110	1933	28,164,540
1928	37,325,287	1934	31,310,752
1929	46,454,820	1935	39,141,734
1930	41,158,740	1936	49,535,495

SUBDIVISION OF THE PRODUCTION OF QUEBEC MINES AND
QUARRIES, FOR YEARS 1933 TO 1936

Year	Metals		Non-Metallics		Building Materials	
	Value	%	Value	%	Value	%
1933	\$16,360,011	58	\$ 6,043,308	22	\$5,761,221	20
1934	19,258,094	61	6,579,453	21	5,473,205	18
1935	23,804,792	61	8,824,178	22	6,512,764	17
1936	30,639,518	62	12,358,312	25	6,537,665	13

TABLE OF THE MINERAL PRODUCTION OF THE PROVINCE OF
QUEBEC DURING 1936

SUBSTANCES	Production in 1936		Value in 1935	
	Quantities	Value		
METALLICS				
Chromite, tons	545	\$ 8,508	\$ 5,371	
Copper, lb	66,340,175	6,287,025	6,162,350	
Gold (in Canadian funds), ounces	666,139	23,334,849	16,558,478	
Lead, lb	2,040,810	79,852	64,156	
Selenium, lb	169,000	299,130	396,328	
Silver, ounces	719,959	324,893	433,338	
Tellurium, lb	33,000	58,410	3,416	
Titaniferous iron ore, tons	2,566	18,318	16,400	
Zinc, lb	6,893,875	228,533	164,955	
Sub-totals		\$30,639,518	\$23,804,792	
NON-METALLICS				
Asbestos, tons	301,287	\$ 9,958,183	\$ 7,054,614	
Feldspar, tons	8,115	75,703	63,075	
Graphite, tons			1,281	
Industrial lime, tons	121,654	630,437	587,680	
Industrial limestone, tons	127,201	132,302	144,236	
Kaolin, tons			1,520	
Magnesitic dolomite		769,176	486,084	
Marl, tons	24,628	9,851	12,325	
Mica, lb	424,275	57,670	74,894	
Mineral paints (iron oxide, ochre), tons	5,458	65,630	75,388	
Mineral water, gals	105,286	16,441	15,113	
Peat, tons	295	7,106	2,958	
Phosphate, tons	525	4,927	1,043	
Pyrite, tons	86,919	282,743	47,779	
Quartz and industrial sand, tons	77,476	315,374	224,135	
Talc and soapstone		32,769	32,053	
Sub-totals		\$12,358,312	\$ 8,824,178	
BUILDING MATERIALS				
Building lime, tons	11,078	\$ 84,629	\$ 88,981	
Building limestone, tons	1,110,157	898,857	943,145	
Cement, barrels	2,093,130	2,945,074	2,472,008	
Clay products	Brick, M.	31,916	499,652	439,143
	Other		175,517	152,499
Granite, tons	112,126	393,493	800,685	
Marble, tons	6,091	120,582	31,071	
Sand and gravel, tons	5,270,531	1,313,592	1,442,468	
Sand-lime brick, M.	1,283	14,306	19,226	
Sandstone, tons	82,181	91,477	121,864	
Slate and shale, tons	237	486	1,674	
Sub-totals		\$ 6,537,665	\$ 6,512,764	
TOTALS		\$49,535,495	\$39,141,734	

METALLICS

Since 1931 the curve of production of metallic substances shows an uninterrupted rise from year to year, and the figures for 1936 show a total value of \$30,639,518, as compared with \$12,367,932 six years ago. The increase for 1936 over the preceding year was at the rate of 28.7 per cent.

Gold.—Gold is now by far the principal item in our list of mineral products. In 1936 it constitutes over 47 per cent of the total mineral production. Except for a very small quantity, it is extracted from Western Quebec mines, the first one of which came into production in 1927. So that our “permanent” gold mining industry is of recent origin. The figures for 1936 were 666,139 ounces, valued at \$23,334,849. Nineteen mines contributed to this production, 18 of which are in Western Quebec, and one in Portneuf county. The latter is the Tétreault mine, which operates a zinc-lead mine, the ore of which carries gold.

LIST OF THE PRINCIPAL MINES WHICH PRODUCED GOLD IN 1936

Property	Ore raised Tons	Ore treated Tons	Gold shipped Fine ounces	See foot-note
Arntfield mine.....	68,074	67,880	8,707	(b)
Beattie mine.....	551,830	551,030	68,582	(b) (c)
Canadian Malartic mine.....	121,922	121,922	19,939	(b)
Greene-Stabell mine.....	24,114	21,220	2,328	(a) (b) (c)
Lamaque mine.....	201,356	201,356	76,488	(b)
McWatters mine.....	37,375	44,633	16,569	(a) (b) (c)
Noranda mine.....	2,011,731	2,009,930	340,957	(c)
O'Brien mine.....	26,616	26,513	20,294	(a) (b)
Perron mine.....	70,000	52,124	13,304	(a) (b)
Shawkey mine.....	(1)	40,615	7,325	(a) (b)
Siscece mine.....	182,302	181,177	68,259	(a) (b)
Stadacona mine.....	17,454	9,116	1,053	(b)
Sullivan mine.....	76,147	46,032	17,901	(a) (b)
Thompson Cadillac mine.....	19,603	14,226	2,378	(a) (c)
Other mines.....			2,055	
Total.....			666,139	

(a) Amalgamation ; (b) cyanidation; (c) Smelter.
(1) Not available.

The following notes on Western Quebec mining fields were abstracted from a report for the first half of 1936, by R.-H. Tasche-reau, inspector of mines.

“In the spring of 1936 a spectacular gold discovery was made at the *O'Brien-Cadillac mine*. This high grade shoot was opened up in the 500-, 625-, 750-, 875-, and 1,000-foot levels. At about the same time rich ore was struck at the neighbouring *Thompson-Cadillac mine*. The *Bouscadillac*, *Kewagama* and *Pandora* mines were reopened. Shaft sinking was commenced at the *Lapa-Cadillac*, *Central-Cadillac*, and *Pan-Canadian* properties.

“In the Bourlamaque-Dubuisson area the *Shawkey* mine was brought into production in February and is now milling 160 tons a day. At the *Siscoe* mine, systematic development was carried on which greatly improved the outlook. The *Lamaque* mine continued to treat 550 tons a day, and development work resulted in substantial additions to the ore reserves. At the *Sigma* mine the erection of a 300-ton cyanide unit was in progress at the end of the year. Improved conditions were noted at the *Sullivan* mine and at the *Greene Stabell* mine.

“In the Fournière-Malartic field the *Canadian-Malartic* mine continued to produce 300 tons a day. Underground work was actively carried on at the *Sladen-Malartic* and the *East-Malartic* mines.

“The *Perron* mine started production in February 1936, and the milling capacity has been increased to 300 tons per day.

“At the *Stadacona-Rouyn* a 200-ton mill was completed and production commenced in the fall. A 100-ton cyanide plant was erected at *McIntyre-Porcupine* property in Guillet township.

“The *Beattie* mine treats 1,500 tons a day, and the treatment methods have been greatly improved after much research work.

“Small mills were erected at the *O'Neill Thompson*, the *Mines Development*, and the *Tiblemont Island* mines.

“At the *Francoeur* mine diamond-drilling has yielded good results by indications of the continuity of the new ore zone.

“The *Noranda* has continued to produce 5500 tons per day. Of the other mines on deposits of complex sulphide ores, the *Aldermac* has started up again, and plans were made to resume operations at the *Waite* mine, and to bring the *Normetal* mine into production.

“In the fields north of the Quebec-Cochrane line of the Canadian National railway, a great deal of underground exploration work was carried on at the *Lake Rose Mines* property, Madeleine lake; at the *Opemiska Copper* property, in Lévy township and at the *Consolidated Chibougamau Goldfields* mine in Chibougamau. A winter road was completed linking the Chicougamau field with the Lake St-Jean network of roads.”

Alluvial Gold.—In the Eastern Townships, important prospecting and exploration work was carried out in Ditton township by the *Embergold Mines, Limited*, to outline old channels and examine the undisturbed pre-glacial yellow clays and gravels which have not been worked by recent streams. The main work has been the sinking of a shaft to bed-rock, a depth of 25 feet, and the driving of 600 feet of galleries from the bottom of the shaft.

Copper.—The quantity of copper metal produced in 1936 was 66,340,175 pounds valued at \$6,287,025. It is a slight decrease in quantity, and a small increase in value as compared with the 1935 figures, which were 79,050,906 pounds valued at \$6,162,350. The average price of copper on the London market was 9.47695 cents per pound in 1936 whereas it had been 7.7954 cents in 1935. It may be added that the price is still on the up trend, and was 12.336 cents for January 1937.

Selenium and Tellurium.—These two metals are produced as by-products in the process of refining the copper anodes of the Noranda smelter. Their combined value in 1936 was \$357,540, a slight decrease compared with the previous year when it was \$399,744.

Zinc and lead.—The figures of zinc and lead production are slightly higher in 1936 than for the previous year. In both cases they represent the metal contents of ore shipped from the Tétreault mine in Portneuf county.

NON-METALLICS

Asbestos.—It is gratifying to note that the asbestos mining industry has recovered practically all the ground that it had lost during the economic depression. The figures for 1936 were 301,287 tons valued at \$9,958,183, whereas in the high-peak year 1929 the tonnage was 306,055.

TABLE I
PRODUCTION OF ASBESTOS IN THE PROVINCE OF QUEBEC FOR 1936

Grouping of Grades	Shipments and Sales		Average value per ton
	Tons	Value	
Crudes.....	3,440	\$ 790,971	\$229.93
Fibres.....	133,288	6,483,946	48.65
Shorts.....	164,559	2,683,266	16.30
Totals.....	301,287	\$9,958,183	\$ 33.05
Sand, gravel and stone, (waste rock only).....	3,103	\$ 2,356	\$.76
Totals.....	304,390	\$9,960,539	

Quantity of rock mined during the year 1936 : 4,692,004 tons.
Quantity of rock milled during the year 1936 : 3,568,992 tons.

TABLE II
PRODUCTION OF ASBESTOS IN THE PROVINCE OF QUEBEC FOR 1935

Grouping of Grades	Shipments and Sales		Average value per ton
	Tons	Value	
Crudes.....	2,278	\$ 539,558	\$236.86
Fibres.....	102,270	4,873,255	47.65
Shorts.....	105,919	1,641,801	15.50
Totals.....	210,467	\$7,054,614	\$ 33.52
Sand, gravel and stone, (waste rock only).....	3,025	\$ 2,053	\$ 0.68
Totals.....	213,492	\$7,056,667	

Quantity of rock mined during the year 1935 : 2,852,118
Quantity of rock milled during the year 1935 : 2,256,994

Asbestos Corporation Limited operated its King mine, Thetford, during the whole year to its capacity. The company has started to outline a second set of blocks below the ones which have been caved. The block-caving method of mining is continuing to give excellent results.

The Beaver mine during the first half of the year was worked, by a small shift of men only, for the production of the crude fibre and also of chromite. In May, mining of asbestos rock was resumed on a larger scale and continued the rest of the year. The *British-Canadian* mine, at Black Lake which had been closed since 1931, was reopened in June, and the *Vimy-Ridge* mine at Coleraine was brought up to normal operation in March 1936. The *Bennett-Martin* mine, at Thetford, closed since 1923, was reopened for the recovery of crude. These mines of *Asbestos Corporation* are hoisting 9,000 tons of rock per day.

The Bell mine was operated without interruption, by *Keasbey and Mattison* during the greater part of the year, and latterly by the *Bell Asbestos Mines, Limited*, a recently incorporated canadian company, of which O. C. Smith is president; H. A. Smith, vice-president and George W. Smith, secretary-treasurer.

All the other asbestos producers, *Canadian Johns-Manville* at Asbestos, *Johnson's Company* at Thetford and Black Lake, and *Quebec Asbestos Company* at East Broughton also operated their mines with greater activity than had obtained for many years.

Magnesite.—The magnesitic dolomite output reached a value of \$769,176 against \$486,084 in 1935. This amount was exceeded in 1918 only, when the sales of this product totalled \$1,016,764, at the war prices which then ruled. The progress made by the magnesitic dolomite industry is ascribable to a revival of the metallurgical industry and also to the marketing of new products.

Industrial lime.—Industrial lime, from calcination of limestone, is used in the province of Quebec chiefly in carbide and wood pulp manufacturing. Its output was valued at \$630,437 in 1936.

Silica.—Returns received to date show that 77,476 tons of silica valued at \$315,374 were shipped last year. This output is by far the highest ever recorded for this substance. Silica is used mainly in the manufacture of glass and carborundum. Of the other non-metallics, increases were recorded in the production of feldspar, mi-

neral water, peat and phosphate and decreases were reported in the sales of graphite, marl, mica and iron oxide.

BUILDING MATERIALS

The building industry has but slightly improved during the year. The production of building materials is scarcely higher than in 1935 and likewise the building permits issued have only increased from \$44,471,900 in 1935 to \$45,749,500 in 1936. There was little demand for dimension stone as shown by the low value of granite shipments. The inactivity of this industry which is, however, momentary is compensated by an increase of 20% in the output of materials entering in the production of concrete and by another increase of 14% in the sales of clay products as compared with 1935.
