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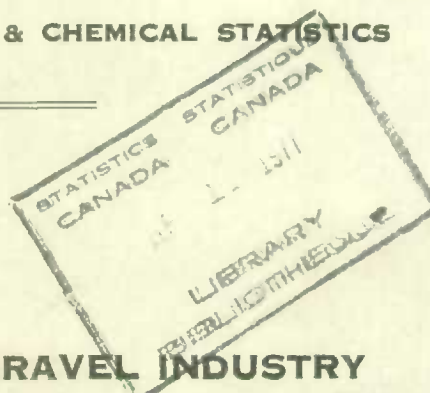
**CANADA**

**DEPARTMENT OF TRADE AND COMMERCE**

**DOMINION BUREAU OF STATISTICS**

**+ + + *Census of Industry* + + +**

**MINING, METALLURGICAL & CHEMICAL STATISTICS**



**THE SAND AND GRAVEL INDUSTRY**

**IN**

**CANADA**

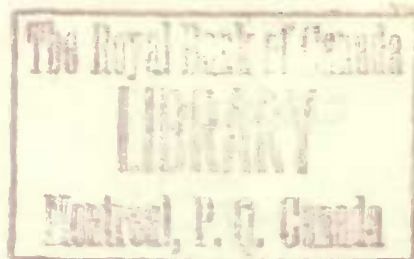
**1947**



**OTTAWA**

**1948**

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Dominion Statistician:  
 Director - Division of Census of Industry and Merchandising:  
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Herbert Marshall  
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### THE SAND AND GRAVEL INDUSTRY - 1947

The commercial production of sand and gravel in Canada during 1947 amounted to 56,789,569 tons valued at \$23,114,431 compared with 39,949,994 tons valued at \$15,529,700 in 1946, an increase of 42 per cent in tonnage and 49 per cent in value. The totals included sand and gravel used by railroads as ballast, gravel used by mines as backfill and recoveries of sand by dredges as well as similar materials from other sources.

Ontario was the leading province with a production of 20,230,499 tons, with Quebec continuing in second position with 16,537,303 tons. Canadian sand and gravel plants screened or washed 7,330,996 tons in 1947 compared with 6,152,580 tons in 1946, and the quantity of bank or pit-run grades amounted to 49,458,573 tons compared with 33,797,414 tons in the preceding year.

Of the sand and gravel (mixed) output in 1947, there were 41,887,705 tons used for roads, concrete etc., and 3,418,072 tons of straight-run sand for building, concrete etc.; 26,397 tons for moulding; 2,519 tons for core sand, and 43,653 tons for other purposes. The quantity of crushed gravel produced during the year was 5,356,229 tons. Other sand used as mine backfill in 1947 totalled 1,894,443 tons.

Imports of sand and gravel amounted to 94,335 tons valued at \$85,216 in 1947 and exports totalled 376,536 tons valued at \$295,301.

The following extract with regard to sand and gravel in Canada has been taken from the annual review by the Bureau of Mines, Ottawa:

"Deposits of sand and gravel are numerous throughout Canada, with the exception of parts of the western prairies, although gravels do not cover such large areas as sands. Some grades of sand particularly suitable for certain industries command a much higher price than does ordinary sand. Such grades, either from natural deposits or are processed by the sand-excavating firms in compliance with specifications supplied by customers.

"Road construction and improvement, concrete works, railway ballast, and airport runways absorb by far the greater part of the gravel and much of the sand used. Gravel in particular has proved a good material for low cost, all-weather road surfaces and also for pavement bases on rural highways, and its use has steadily increased with the growth of motor traffic. On main railway lines gravel ballast is being gradually replaced by crushed stone ballast. This practice was started many years ago but the large increase in rail traffic during the late war greatly intensified the work of replacement. A considerable tonnage of sand and gravel is also used for re-filling the worked out parts of mines.

"Most of the gravel used for road work comes from pits worked for that purpose. Usually a portable or semi-portable plant is used to extract enough gravel to supply the immediate need and then a sufficient reserve is built up, in the form of stock piles, for several years' requirements. Road pits may remain idle for two years or more. The amount of gravel produced from year to year depends upon the program of road construction and improvement and thus operation of the pits is intermittent. This pertains also to railway pits, which may remain idle for several years.

"Part of the gravel used is crushed, screened, and in some cases washed, and the proportion thus processed is increasing steadily. Some provincial highway departments have used crushed instead of pit-run gravel on their main highways for a number of years. Most of the large commercial plants are equipped for producing crushed gravel, a product that can compete with crushed stone.

"Most of the sand excavated is used in the building industry, such as concrete work, cement and lime mortar, and wall plaster. For these purposes the sand must be free from dust, loam, organic matter, and clay, but the specifications are otherwise fairly broad, and the sand can usually be obtained from local deposits. Special grades of sand are required for moulding in foundries; filtering of water supply; and glass-making."

Table 1 - PRINCIPAL STATISTICS (x) FOR THE SAND AND GRAVEL INDUSTRY IN CANADA, 1946 and 1947

| Province             | Estab-<br>lish-<br>ments<br>No. | Em-<br>ployees<br>No. | Salaries<br>and<br>wages<br>\$ | Cost of<br>fuel and<br>electri-<br>city<br>\$ | Cost of<br>process<br>supplies<br>\$ | Gross value of<br>products sold<br>during year<br>(f.o.b. works)<br>\$ |
|----------------------|---------------------------------|-----------------------|--------------------------------|---|--------------------------------------|--|
| <u>1 9 4 6</u>       |                                 |                       |                                |   |                                      |  |
| Nova Scotia .....    | 4                               | 291                   | 248,549                        | 1,950   | 168                                  | 450,293  |
| New Brunswick .....  | 5                               | 255                   | 256,924                        | 983   | 420                                  | 680,380  |
| Quebec .....         | 893                             | 1,102                 | 1,118,710                      | 92,989  | 11,169                               | 3,189,541  |
| Ontario .....        | 620                             | 539                   | 871,116                        | 295,218                                       | 23,289                               | 6,342,488  |
| Manitoba .....       | 11                              | 230                   | 441,663                        | 19,599  | 22,008                               | 375,489  |
| Saskatchewan .....   | 7                               | 135                   | 80,904                         | 501   | 11,212                               | 865,249  |
| Alberta .....        | 6                               | 36                    | 52,717                         | 20,723  | 3,595                                | 1,006,354  |
| British Columbia ... | 22                              | 205                   | 343,293                        | 69,504  | 6,161                                | 1,742,139  |
| TOTAL ....           | 1,568                           | 2,793                 | 3,413,876                      | 501,467                                       | 78,022                               | 14,651,933   |
| <u>1 9 4 7</u>       |                                 |                       |                                |   |                                      |  |
| Nova Scotia .....    | 3                               | 444                   | 387,274                        | 18,078  | ...                                  | 1,337,547  |
| New Brunswick .....  | 4                               | 339                   | 461,921                        | 195   | ...                                  | 1,178,640  |
| Quebec .....         | 887                             | 1,240                 | 1,424,181                      | 103,513                                       | 12,892                               | 4,733,362  |
| Ontario .....        | 635                             | 684                   | 1,310,990                      | 413,388                                       | 54,094                               | 8,692,201  |
| Manitoba .....       | 13                              | 288                   | 469,885                        | 21,897  | 31,649                               | 506,836  |
| Saskatchewan .....   | 24                              | 151                   | 104,887                        | 1,988   | 14,830                               | 1,094,281  |
| Alberta .....        | 6                               | 56                    | 97,552                         | 24,876  | 4,259                                | 1,118,537  |
| British Columbia ... | 26                              | 228                   | 451,271                        | 102,550                                       | 8,818                                | 3,638,993  |
| TOTAL ....           | 1,598                           | 3,430                 | 4,707,961                      | 686,485                                       | 126,542                              | 22,300,397   |

(x) Does not include data on sand and gravel produced by railroads. In 1947, railroad production by 23 operators was 4,091,032 tons valued at \$814,034. Salaries and wages paid to workers at these pits was \$233,187 for the year. In 1946, railroad production by 21 operators was 4,255,306 tons valued at \$877,767 and salaries and wages totalled \$186,921.

Table 2 - PRODUCTION (x) OF SAND AND GRAVEL IN CANADA, 1938-1947

| Year       | Tons       | \$         |
|------------|------------|------------|
| 1938 ..... | 32,223,882 | 12,002,554 |
| 1939 ..... | 31,294,341 | 11,241,102 |
| 1940 ..... | 31,375,415 | 11,759,245 |
| 1941 ..... | 31,604,806 | 10,375,723 |
| 1942 ..... | 26,349,907 | 9,005,414  |
| 1943 ..... | 25,744,469 | 9,005,857  |
| 1944 ..... | 28,399,986 | 10,280,119 |
| 1945 ..... | 29,750,703 | 10,568,363 |
| 1946 ..... | 39,949,994 | 15,529,700 |
| 1947 ..... | 56,789,569 | 23,114,431 |

(x) Does not include production of natural silica sand or of silica sand manufactured from quartz or silica rock; production of these are recorded under quartz.

Table 3 - PRODUCTION IN CANADA OF SAND AND GRAVEL, 1946 and 1947

|  | Washed or<br>screened<br>tons | Bank or<br>pit run<br>tons | Total<br>Value<br>\$ |
|--|-------------------------------|----------------------------|----------------------|
| <u>1 9 4 6</u>   |                               |                            |                      |
| Production (x) -                                       |                               |                            |                      |
| Sand:  |                               |                            |                      |
| Moulding sand .....                                    | 24,411                        | 7,964                      | 61,419               |
| Building sand and sand for concrete, roadwork, etc. .. | 2,558,531                     | 863,299                    | 1,681,572            |
| Core sand .....  | 918                           | 1,439                      | 4,091                |
| Mine filling .....                                     | 52,956                        | 1,971,073                  | 426,063              |
| Other sand (including blast sands, engine sands, etc.) | 8,807                         | 50,637                     | 15,026               |
| Sand and Gravel:                                       |                               |                            |                      |
| Sand and gravel for railway ballast .....              | 207,229                       | 3,760,894                  | 867,616              |
| Sand and gravel for concrete, road-building, etc. .... | 2,383,513                     | 24,256,603                 | 10,530,718           |
| Crushed gravel .....                                   | 916,215                       | 2,885,505                  | 1,943,195            |
| TOTAL .....  | 6,152,580                     | 33,797,414                 | 15,529,700           |

|  |           |            |            |
|--|-----------|------------|------------|
| <u>1 9 4 7</u>   |           |            |            |
| Production (x) -                                       |           |            |            |
| Sand:  |           |            |            |
| Moulding sand .....                                    | 21,467    | 4,930      | 61,736     |
| Building sand and sand for concrete, roadwork, etc. .. | 2,504,669 | 913,403    | 1,981,328  |
| Core sand .....  | ...       | 2,519      | 4,450      |
| Mine filling .....                                     | 25,743    | 1,868,100  | 429,946    |
| Other sand (including blast sands, engine sands, etc.) | 3,411     | 40,242     | 13,900     |
| Sand and Gravel:                                       |           |            |            |
| Sand and gravel for railway ballast .....              | 312,905   | 3,848,246  | 986,241    |
| Sand and gravel for concrete, road-building, etc. .... | 2,997,730 | 38,889,975 | 16,619,097 |
| Crushed gravel .....                                   | 1,465,071 | 3,891,158  | 3,017,733  |
| TOTAL .....  | 7,330,996 | 49,458,573 | 23,114,431 |

(x) Does not include production of natural silica sand or of silica sand manufactured from quartz or silica rock; production of these are recorded under quartz in the bulletin "The Feldspar and Quartz Mining Industry".

Table 4 - PRODUCTION OF SAND AND GRAVEL, BY PROVINCES, 1943-1947

| Province                    |      | 1943                               | 1944       | 1945       | 1946       | 1947       |
|-----------------------------|------|------------------------------------|------------|------------|------------|------------|
| Prince Edward Island ... .. |      | No commercial production reported. |            |            |            |            |
| Nova Scotia .....           | Tons | 917,376                            | 911,970    | 1,308,848  | 1,105,980  | 2,966,680  |
|                             | \$   | 585,007                            | 411,041    | 555,809    | 484,585    | 1,363,363  |
| New Brunswick .....         | Tons | 719,531                            | 1,960,382  | 1,627,371  | 2,203,646  | 3,464,347  |
|                             | \$   | 372,936                            | 958,524    | 686,267    | 807,045    | 1,278,376  |
| Quebec .....                | Tons | 10,601,376                         | 8,541,400  | 8,971,960  | 12,374,125 | 16,537,303 |
|                             | \$   | 2,362,635                          | 2,140,856  | 2,279,537  | 3,313,103  | 4,877,339  |
| Ontario .....               | Tons | 8,285,309                          | 9,529,803  | 10,466,891 | 14,881,918 | 20,230,499 |
|                             | \$   | 3,620,852                          | 4,417,427  | 4,466,862  | 6,738,595  | 9,034,131  |
| Manitoba .....              | Tons | 1,048,673                          | 1,102,448  | 1,497,062  | 1,333,890  | 1,765,976  |
|                             | \$   | 293,938                            | 296,086    | 516,380    | 416,431    | 549,640    |
| Saskatchewan .....          | Tons | 1,288,263                          | 1,163,097  | 1,237,595  | 1,732,731  | 2,131,705  |
|                             | \$   | 583,687                            | 533,175    | 563,276    | 910,661    | 1,137,609  |
| Alberta .....               | Tons | 626,157                            | 833,524    | 919,736    | 1,812,468  | 2,058,142  |
|                             | \$   | 309,389                            | 328,151    | 433,436    | 1,060,703  | 1,170,883  |
| British Columbia .....      | Tons | 2,257,784                          | 4,357,362  | 3,721,240  | 4,505,236  | 7,634,917  |
|                             | \$   | 877,413                            | 1,194,859  | 1,066,796  | 1,798,577  | 3,703,090  |
| CANADA .....                | Tons | 25,744,469                         | 28,399,986 | 29,750,703 | 39,949,994 | 56,789,569 |
|                             | \$   | 9,005,857                          | 10,280,119 | 10,568,363 | 15,529,700 | 23,114,431 |

Table 5 - PRODUCTION OF WASHED AND SCREENED AND PIT RUN GRADES, BY PROVINCES, 1947

| Province               | Washed or,<br>screened<br>tons | Bank or<br>pit run<br>tons | Total<br>Value<br>\$ |
|------------------------|--------------------------------|----------------------------|----------------------|
| Nova Scotia .....      | 218,070                        | 2,748,610                  | 1,363,363            |
| New Brunswick .....    | ...                            | 3,464,347                  | 1,278,376            |
| Quebec .....           | 1,209,373                      | 15,327,930                 | 4,877,339            |
| Ontario .....          | 3,933,961                      | 16,296,538                 | 9,034,131            |
| Manitoba .....         | 82,591                         | 1,683,385                  | 549,640              |
| Saskatchewan .....     | 861                            | 2,130,844                  | 1,137,609            |
| Alberta .....          | 349,993                        | 1,708,149                  | 1,170,883            |
| British Columbia ..... | 1,536,147                      | 6,098,770                  | 3,703,090            |
| TOTAL .....            | 7,330,996                      | 49,458,573                 | 23,114,431           |

Table 6 - PRODUCTION OF SAND FOR BUILDING AND FOR CONCRETE, ROADS, ETC., AND SAND AND GRAVEL FOR RAILWAY BALLAST AND FOR CONCRETE, ROADS, ETC., 1938-1947

| Year                   | Sand                                       |           | Sand and Gravel     |           |                              |            |
|------------------------|--|-----------|---------------------|-----------|------------------------------|------------|
|                        | For building, concrete,<br>roads, etc. (x) |           | For railway ballast |           | For concrete,<br>roads, etc. |            |
|                        | Tons                                       | \$        | Tons                | \$        | Tons                         | \$         |
| 1938 .....             | 1,750,187                                  | 685,976   | 2,359,703           | 443,936   | 22,513,256                   | 9,101,882  |
| 1939 .....             | 1,169,899                                  | 364,829   | 3,223,718           | 603,288   | 22,899,751                   | 8,988,114  |
| 1940 .....             | 1,961,604                                  | 537,937   | 3,834,904           | 699,518   | 21,465,961                   | 9,100,612  |
| 1941 .....             | 2,192,405                                  | 729,901   | 4,836,908           | 916,979   | 19,769,798                   | 7,135,258  |
| 1942 .....             | 2,535,366                                  | 934,777   | 4,610,323           | 957,781   | 16,139,859                   | 6,010,412  |
| 1943 .....             | 1,970,316                                  | 775,392   | 3,837,111           | 712,140   | 16,060,686                   | 6,155,625  |
| 1944 .....             | 1,605,514                                  | 743,191   | 4,428,721           | 900,610   | 16,648,511                   | 6,898,582  |
| 1945 .....             | 2,247,887                                  | 918,739   | 4,625,513           | 1,116,297 | 17,582,686                   | 6,573,527  |
| 1946 .....             | 3,421,830                                  | 1,681,572 | 3,968,123           | 867,616   | 26,640,116                   | 10,530,718 |
| 1947 -                 |  |           |                     |           |                              |            |
| Nova Scotia .....      | ...  | ...       | 262,573             | 84,737    | 2,651,490                    | 1,210,892  |
| New Brunswick .....    | 1,164                                      | 302       | 191,546             | 28,377    | 3,154,669                    | 1,179,030  |
| Quebec .....           | 1,282,027                                  | 690,973   | 401,622             | 80,230    | 11,509,773                   | 2,619,732  |
| Ontario .....          | 1,766,177                                  | 1,100,291 | 2,319,453           | 559,901   | 13,816,096                   | 5,923,833  |
| Manitoba .....         | 97,437                                     | 47,199    | 327,234             | 87,218    | 1,251,863                    | 345,744    |
| Saskatchewan .....     | 25,776                                     | 3,832     | 247,070             | 42,656    | 1,858,859                    | 1,091,171  |
| Alberta .....          | 82,684                                     | 57,851    | 199,018             | 35,097    | 1,495,196                    | 988,716    |
| British Columbia ..... | 162,807                                    | 80,880    | 212,635             | 68,025    | 6,149,759                    | 3,259,959  |
| CANADA, 1947 .         | 3,418,072                                  | 1,981,328 | 4,161,151           | 986,241   | 41,887,705                   | 16,619,097 |

(x) Exclusive of engine and other sands and mine fill.

Table 7 - PRODUCTION OF MOULDING AND CORE SAND AND CRUSHED GRAVEL, BY PROVINCES, 1947

| Province               | Moulding Sand |        | Core Sand |       | Crushed Gravel |           |
|------------------------|---------------|--------|-----------|-------|----------------|-----------|
|                        | Tons          | \$     | Tons      | \$    | Tons           | \$        |
| Nova Scotia .....      | 1,505         | 6,400  | ...       | ...   | 51,112         | 61,334    |
| New Brunswick .....    | ...           | ...    | ...       | ...   | 116,968        | 70,667    |
| Quebec .....           | ...           | ...    | ...       | ...   | 3,077,808      | 1,413,242 |
| Ontario .....          | 24,174        | 54,618 | 2,420     | 4,368 | 1,380,148      | 1,133,040 |
| Manitoba .....         | 718           | 718    | 99        | 82    | 84,874         | 67,151    |
| Saskatchewan .....     | ...           | ...    | ...       | ...   | ...            | ...       |
| Alberta .....          | ...           | ...    | ...       | ...   | 281,244        | 89,219    |
| British Columbia ..... | ...           | ...    | ...       | ...   | 364,075        | 183,080   |
| CANADA, 1947 ..        | 26,397        | 61,736 | 2,519     | 4,450 | 5,356,229      | 3,017,733 |
| CANADA, 1946 ..        | 32,375        | 61,419 | 2,357     | 4,091 | 3,801,720      | 1,943,195 |

Table 8 - WORKMEN (x) IN THE SAND AND GRAVEL INDUSTRY IN CANADA, BY MONTHS, 1946 and 1947

| Month           | 1 9 4 6 |        |       | 1 9 4 7 |        |       |
|-----------------|---------|--------|-------|---------|--------|-------|
|                 | Male    | Female | Total | Male    | Female | Total |
| January .....   | 648     | 4      | 652   | 753     | 1      | 754   |
| February .....  | 660     | 4      | 664   | 788     | 1      | 789   |
| March .....     | 771     | 4      | 775   | 966     | 1      | 967   |
| April .....     | 871     | 8      | 879   | 1,192   | 9      | 1,201 |
| May .....       | 3,226   | 10     | 3,236 | 3,756   | 12     | 3,768 |
| June .....      | 7,520   | 13     | 7,533 | 9,584   | 10     | 9,594 |
| July .....      | 7,698   | 14     | 7,712 | 9,707   | 11     | 9,718 |
| August .....    | 3,814   | 14     | 3,828 | 4,492   | 51     | 4,543 |
| September ..... | 3,419   | 14     | 3,433 | 4,014   | 11     | 4,025 |
| October .....   | 1,286   | 14     | 1,300 | 1,576   | 10     | 1,586 |
| November .....  | 1,093   | 11     | 1,104 | 1,289   | 9      | 1,298 |
| December .....  | 830     | 6      | 836   | 1,018   | 4      | 1,022 |
| AVERAGE .....   | 2,658   | 12     | 2,670 | 3,273   | 10     | 3,283 |

(x) This report does not include employment data relating to the production of sand and gravel by railroads owing to the difficulty of separating statistics pertaining to part-time work conducted by railroad maintenance employees and work done by contractors. In 1947, the combined amount paid by railroads to contractors and wages paid railroad employees for the production of sand and gravel totalled \$233,187.

Table 9 - FUEL AND ELECTRICITY USED, 1946 and 1947 (x)

| Kind  | Unit of measure | 1 9 4 6   |         | 1 9 4 7    |         |
|---|-----------------|-----------|---------|------------|---------|
|   |                 | Quantity  | Value   | Quantity   | Value   |
|   |                 |           | \$      |            | \$      |
| Bituminous coal - Canadian ...                      | short ton       | 4,855     | 46,890  | 2,713      | 30,114  |
| Foreign ....  | short ton       | 13,628    | 112,838 | 12,163     | 117,542 |
| Sub-bituminous coal (from Alberta mines only) ..... | short ton       | 58        | 368     | 62         | 762     |
| Anthracite coal .....                               | short ton       | 327       | 3,446   | ...        | ...     |
| Coke .....  | short ton       | ...       | ...     | ...        | ...     |
| Gasoline .....                                      | Imp.gal.        | 776,134   | 219,540 | 936,774    | 268,431 |
| Kerosene .....                                      | Imp.gal.        | 18,829    | 4,085   | 4,010      | 861     |
| Fuel oil .....                                      | Imp.gal.        | 135,657   | 18,144  | 1,172,944  | 129,850 |
| Wood .....  | cord            | 45        | 175     | 33         | 330     |
| Natural gas .....                                   | M cu.ft.        | 158       | 95      | 3,966      | 1,086   |
| Electricity purchased .....                         | K.W.H.          | 6,550,328 | 95,886  | 10,973,809 | 137,509 |
| TOTAL .....   | ...             | ...       | 501,467 | ...        | 686,485 |

(x) Does not include data relating to fuel and electricity used by railroads for the production of sand and gravel.

Table 10 - POWER EQUIPMENT, 1947

|   | Number of units (x) | Horse power |
|---|---------------------|-------------|
| Steam engines .....                                     | 22                  | 1,106       |
| Steam turbines .....                                    | ...                 | ...         |
| Diesel engines .....                                    | 44                  | 3,348       |
| Gasoline, gas and oil engines .....                     | 113                 | 5,012       |
| Hydraulic turbines or water wheels .....                | 7                   | 240         |
| Electric motors operated by purchased power .....       | 354                 | 8,326       |
| Electric motors operated by establishments' power ..... | 10                  | 185         |
| Motor-generator sets .....                              | ...                 | ...         |
| Stationary boilers .....                                | 9                   | 627         |

(x) Includes reserve equipment.

PRINCIPAL SAND AND GRAVEL OPERATORS - 1947

In addition to the names listed below, production has been reported by the railway companies for ballast, and also a considerable amount by counties and townships in Ontario for road use.

(w) Markets washed or screened material.

| Name of Firm                                | Head Office Address                        | Location                     |
|---|--|------------------------------|
| <u>Nova Scotia -</u>                        |  |                              |
| Crockett, V. B.                             | Wallace                                    | Belmont                      |
| Nova Scotia Department of Highways          | Halifax                                    | various                      |
| Rayner Construction Ltd. (w)                | 29 Commercial Rd., Leaside                 | Debert                       |
| <u>New Brunswick -</u>                      |  |                              |
| Anderson, A. W. Estate                      | Fairville                                  | Fairville                    |
| Likely, Jos. A., Ltd.                       | Saint John                                 | East Saint John              |
| Mazwell, Elmer E.                           | St. Stephen                                | Charlotte County             |
| New Brunswick Department of Highways        | Fredericton                                | various                      |
| <u>Quebec -</u>                             |  |                              |
| Asselin, Adrien                             | 112 avenue des Oblats, Quebec              | Ste. Foy                     |
| Beaudry, Antoine                            | Lachenaie                                  | Mascouche                    |
| Belleterre Quebec Mines Ltd.                | 25 Ring St. W., Toronto 1, Ont.            | Guillet Tp.                  |
| Bonner Sand & Ballast Ltd. (w)              | 1434 St. Catherine St. W., Montreal        | South Durham                 |
| Breen, Mary Ann                             | Guigues                                    | Guigues                      |
| Brouillet Sand & Gravel Co. Ltd. (w)        | Rawdon                                     | Ste. Julienne                |
| Canadian Johns-Manville Co. Ltd.            | 1062 Sun Life Bldg., Montreal              | Asbestos                     |
| Chavot & Vincelette                         | St. Jean Baptiste                          | St. Jean Baptiste            |
| Coaticook, City of                          | Coaticook                                  | Coaticook                    |
| La Compagnie de Sable Ltée. (w)             | 20 - 31ème Ave., Quebec                    | Beauport Est                 |
| Consolidated Oka Sand & Gravel Co. Ltd. (w) | 248 McCord St., Montreal                   | Lake of Two Mountains        |
| East Malartic Mines Ltd.                    | Norrie                                     | Fournier Tp.                 |
| Gagnon, Arthur                              | 1740 - 41ème rue, Grand'Mere               | Grand'Mere                   |
| Goyer, Edouard & Frère                      | St. Bruno                                  | St. Hilaire and<br>St. Bruno |
| Hains, A. Ltée.                             | 837 avenue Royale, Beauport                | Ste. Therese de Lisieux      |
| Laberge, E.                                 | Ste. Foy                                   | Ste. Foy                     |
| Latulippe, P. (w)                           | 240 rue de la Ronde, Quebec                | St. Charles River            |
| Magog, City of                              | Magog                                      | Magog                        |
| Malartic Gold Fields Ltd.                   | 355 St. James St. W., Montreal             | Abitibi                      |
| Marchand & Frère                            | 505 - 8e rue, Almaville-en-haut,<br>Quebec | Mont Carmel                  |
| Montreal Dual Mixed Concrete Ltd. (w)       | 6301 Park Ave., Montreal                   | Charette                     |
| Normetal Mining Corporation Ltd.            | 350 Bay St., Toronto 1, Ont.               | Abitibi                      |
| O'Brien Gold Mines Ltd.                     | Kewagama                                   | Cadillac Tp.                 |
| Poirier, Maurice                            | St. Felix de Valois                        | Notre Dame de Lourdes        |
| Potier & Frère                              | 8645 Casgrain St., Montreal                | St. Andre d'Argenteuil       |
| Rimouski, City of                           | Rimouski                                   | Sacre Coeur                  |
| Robert & Dufour Enrg.                       | 929 ave. Royale, Beauport                  | Ste. Therese                 |
| Angus Robertson Ltd.                        | 5035 Western Ave., Montreal                | Pontiac                      |
| St. Francis River Dredging Co. (w)          | St. Francois du Lac                        | St. Francis River            |
| St. Hilaire, N.                             | New Liverpool                              | Chaudiere-Bassin             |
| Les Sables des Mille Iles Ltée. (w)         | 19 rue Dupont, Montreal                    | St. Henri de Mascouche       |
| Sherbrooke, City of                         | Sherbrooke                                 | Orford Tp.                   |
| Standard Lime Co. Ltd. (w)                  | Joliette                                   | Ste. Emelie                  |
| Standard Sand & Gravel Ltd. (w)             | 194 rue Principale,<br>St. Felix de Valois | St. Felix de Valois          |
| Tremblay, J. Albert (w)                     | 221 rue Ste. Famille, Kenogami             | Simard Tp.                   |
| Tremblay, Jos.                              | 276 rue Georges, Shawinigan Falls          | Almaville                    |
| Two Mountains Sand Co. Ltd.                 | 517 Canada Cement Bldg., Montreal          | Pointe Calumet               |
| Venne, Oscar                                | Lachenaie                                  | Lachenaie                    |

## PRINCIPAL SAND AND GRAVEL OPERATORS - 1947 (Continued)

| Name of Firm                           | Head Office Address                   | Location  |
|--|---------------------------------------|---|
| <b>Ontario -</b>                       |                                       |   |
| Armstrong Bros. (w)                    | 75 Main St. N., Brampton              | Chinguacousy Tp.  |
| Axford, K. R.                          | 35 Elm St., St. Thomas                | Yarmouth Tp.  |
| Barnes, Wm. R. Co. Ltd. (w)            | 243 Cumberland Ave., Hamilton         | Hamilton  |
| Blair, Milton                          | Arnprior                              | Carleton Co.  |
| Blake, John                            | 453 Leslie St., Toronto               | Scarboro Tp.  |
| Braas Bros. Sand Co.                   | Niagara Falls                         | Stamford Tp.  |
| Burnside, C.                           | 1007 Wellington St., Ottawa           | Bells Corners   |
| Burrows, J. W.                         | 647 Lavery St., North Bay             | Widdifield Tp.  |
| Cadwell Marine Ltd. (w)                | 602 Erie Ave., Niagara Falls          | Niagara Bar   |
| Caswell Construction Ltd.              | 56 Rand Ave., Kirkland Lake           | Larder Lake   |
| Chatham Sand & Gravel Co. (w)          | 109 Stanley Ave., Chatham             | Chatham   |
| Coleman, Gordon                        | 235 Sydney St., Cornwall              | Moulinette  |
| Consolidated Sand & Gravel Ltd. (w)    | 402 Harbour Commission Bldg., Toronto | Fuller, Paris and Waterford   |
| Cooke, J. Ltd. (w)                     | Aldershot                             | East Flamboro Tp.   |
| Cooper, Alf. & Co. (w)                 | 212 North May St., Fort William       | Paipoonge Tp.   |
| Cudmore, H.                            | Hensall                               | Usborne Tp.   |
| Curran & Briggs Ltd. (w)               | 61 Haverson Blvd., Toronto            | Pickering, Plevna, Steenberg, New Liskeard, Matachewan, Matheson, Cochrane and Moonbeam |
| Dibblee Construction Co. Ltd. (w)      | 248 Albert St., Ottawa                | Vankleek Hill and Finch   |
| Dixie Sand & Gravel Ltd. (w)           | Dixie                                 | Dixie   |
| Dome Mines Ltd.                        | South Porcupine                       | Shaw Tp.  |
| Durham Crushed Stone Ltd. (w)          | Durham                                | Gray Tp.  |
| Elliot, Jack                           | Kapuskasing                           | O'Brien Tp.   |
| Ellins Bros.                           | 304 Scarlett Rd., Toronto 9           | Etobicoke Tp.   |
| Fewster, Stanley                       | St. Marys                             | East Nissouri Tp.   |
| Forwell Sand & Gravel Ltd. (w)         | 31 Whitney Place, Kitchener           | Waterloo Tp.  |
| Foster, R. R. & Sons Ltd.              | 86 Spadina Ave., Ottawa               | Bowesville  |
| Foy, Geo. C.                           | Wardsville                            | Mosa Tp.  |
| Gauthier, J. T.                        | Porcupine                             | Whitney Tp.   |
| Goodreau, Chas., Estate (w)            | Northwood                             | Harwich Tp.   |
| Grandmaitre, D.                        | 71 Montreal Rd., Eastview             | McKays Lake   |
| Guelph, City of                        | Guelph                                | Guelph  |
| Guelph Sand & Gravel Ltd. (w)          | Inkerman St., Guelph                  | Guelph Tp.  |
| Hall, Thomas G.                        | Plattsville                           | Blenheim Tp.  |
| Hamilton, A.                           | Atwood                                | Elma Tp.  |
| Harvey, John                           | Arnprior                              | Arnprior  |
| Hawkins, W.                            | Stevensville                          | Ridgeway  |
| Highland Creek Sand & Gravel Ltd. (w)  | Highland Creek                        | Scarboro Tp.  |
| Hill, Walter (w)                       | Merlin                                | Romey Tp.   |
| Hollinger Consolidated Gold Mines Ltd. | Timmins                               | Tisdale Tp.   |
| Howard Sand & Gravel Co. Ltd. (w)      | Aldershot                             | East Flamboro Tp.   |
| Industrial Sand & Gravel Co. (w)       | 67 Gilmour Ave., Toronto 9            | Vaughan Tp.   |
| Jenkins, Jack (w)                      | Morpeth                               | Morpeth   |
| Jerome, A. P. (w)                      | Bothwell                              | Zone Tp.  |
| Johnson Bros. Co. Ltd.                 | 37 Market St., Brantford              | Brant Co.   |
| Jupp, A. E. Construction Co. Ltd.      | 56 Blake St., Toronto                 | Tay Tp.   |
| Keyes, Mrs. S.                         | Woodstock                             | Woodstock   |
| Kingston Sand & Gravel                 | 235 Wellington St., Kingston          | Kingston  |
| Lyons, C. A.                           | Paris                                 | S. Dumphries Tp.  |
| Maine, Jack (w)                        | Chatham                               | Thames River  |
| Martin & Dayman                        | Drumbo                                | Blenheim Tp.  |
| McCready, D.                           | Thamesford                            | Thamesford  |
| McLean, A. & Sons Ltd. (w)             | Sault Ste. Marie                      | St. Marys River   |
| McNamara Construction Co. Ltd.         | 42 Industrial St., Leaside            | Gauthier, Bowman, Tessalon, Maisonneville and Idington Tp.                              |

## PRINCIPAL SAND AND GRAVEL OPERATORS - 1947 (Continued)

| Name of Firm                              | Head Office Address                 | Location          |
|---|-------------------------------------|-------------------|
| <b>Ontario - (Concluded)</b>              |                                     |                   |
| National Sand & Material Co. Ltd. (w)     | 402 Harbour Building, Toronto       | Lake Ontario      |
| Nevill, George                            | R. R. 5, Aylmer West                | Malahide Tp.      |
| Northey, Cecil                            | Peterborough                        | Smith Tp.         |
| Ontario Sand & Gravel Co. Ltd. (w)        | 1211 Bathurst St., Toronto          | Maple             |
| Park Bros.                                | Lucan                               | Lucan             |
| Peninsula Sand Co.                        | Stamford Centre                     | Stamford Tp.      |
| Pioneer Construction Co. Ltd. (w)         | Sudbury                             | Sudbury           |
| Quigley Foundry Sands                     | Bartonville                         | Waterdown         |
| Richardson, J. E.                         | Thamesville                         | Camden Tp.        |
| Sarjeant Co. Ltd.                         | 2 Mary St., Barrie                  | Barrie            |
| Shelton, Russell                          | Ingersoll                           | Dereham Tp.       |
| Sherman Sand & Gravel                     | Port Credit                         | Port Credit       |
| Smythe, C. Ltd. (w)                       | Box 8, Postal Station D., Toronto 9 | Mt. Dennis        |
| Speeran, Geo. A.                          | Brussels                            | Grey Tp.          |
| Spratt, G. H.                             | Billings Bridge                     | Billings Bridge   |
| Stapledon, W. H.                          | Britannia Heights                   | Britannia Heights |
| Stouffville Sand & Gravel Ltd.            | Stouffville                         | Stouffville       |
| Superior Sand, Gravel & Supplies Ltd. (w) | 347 Bay St., Toronto                | Vaughan Tp.       |
| United Towing & Salvage Co. Ltd., (w)     | 635 Common St., Montreal, Que.      | Lake Superior     |
| Vogan, David                              | Goderich                            | Goderich          |
| Warren Bituminous Paving Co. (w)          | 1454 Bloor St. W., Toronto          | Smith Tp.         |
| Woodbridge Sand & Gravel Co. (w)          | R. R. 3, Woodbridge                 | Woodbridge        |
| Woollatt Fuel & Supply Co. Ltd. (w)       | 2171 Ottawa St., Windsor            | Leamington        |
| <b>Manitoba -</b>                         |                                     |                   |
| Alsip Brick, Tile & Lumber Co. Ltd.       | 537 Portage Ave., Winnipeg          | Beausejour        |
| Brandon, City of                          | Brandon                             | Brandon           |
| Building Products & Coal Co. Ltd.         | 111 Christie St., Winnipeg          | Birds Hill        |
| Greater Winnipeg Water District           | 185 King St., Winnipeg              | Winnipeg          |
| Manitoba Department of Highways           | Winnipeg                            | various           |
| McCurdy Supply Co. Ltd.                   | Sargent & Erin Sts., Winnipeg       | .....             |
| Provincial Gravel & Coal Co. Ltd. (w)     | 356 Main St., Winnipeg              | Springfield       |
| Rosser, Municipality of                   | Rosser                              | Rosser            |
| Winnipeg, City of                         | 223 James Ave., Winnipeg            | Birds Hill        |
| <b>Saskatchewan -</b>                     |                                     |                   |
| Collins, A. E.                            | Cutknife                            | Cutknife          |
| Eamon, H. & Co.                           | Biggar                              | Biggar            |
| Klander, John                             | Flin Flon                           | Flin Flon         |
| Hudson Bay Mining & Smelting Co. Ltd.     | 500 Royal Bank Bldg., Winnipeg      | Flin Flon         |
| Logan, Foster                             | Gull Lake                           | Gull Lake         |
| McLachlan Bros.                           | Yorkton                             | Yorkton           |
| Prince Albert, City of                    | Prince Albert                       | Prince Albert     |
| Reliance Services Ltd.                    | Flin Flon                           | Flin Flon         |
| Saskatchewan Department of Highways       | Regina                              | various           |
| Silverwood, W. A.                         | 708 Queen St., Saskatoon            | Saskatoon         |
| <b>Alberta -</b>                          |                                     |                   |
| Alberta Department of Highways            | Edmonton                            | various           |
| Doncaster Construction Co. Ltd. (w)       | Garneau Theatre, Edmonton           | Edmonton          |
| Jefferies & Sons Ltd. (w)                 | Calgary                             | Calgary           |
| Mountain View, Municipal District (w)     | Didsbury                            | Didsbury          |
| <b>British Columbia -</b>                 |                                     |                   |
| British Columbia Department of Highways   | Victoria                            | various           |
| B. C. Electric Railway Co. Ltd.           | 425 Carrall St., Vancouver          | various           |
| Burnaby, Corporation of                   | New Westminster                     | Burnaby           |

## PRINCIPAL SAND AND GRAVEL OPERATORS - 1947 (Concluded)

| Name of Firm  | Head Office Address               | Location             |
|---|-----------------------------------|----------------------|
| <u>British Columbia - (Concluded)</u>                 |                                   |                      |
| Chilliwack, City of                                   | Chilliwack                        | Chilliwack           |
| Consolidated Mining & Smelting Co. of Canada Ltd. (w) | Trail                             | Kimberly and Tadanac |
| Cranbrook, City of                                    | Cranbrook                         | Cranbrook            |
| Deeks Sand & Gravel Co. Ltd. (w)                      | 1051 Main St., Vancouver          | Seymour Creek        |
| Delta, Corporation of                                 | Ladner                            | Ladner               |
| Fernie, City of                                       | Fernie                            | Fernie               |
| Gilley Bros. Ltd. (w)                                 | 902 Columbia St., New Westminster | Port Coquitlam       |
| Highland Sand & Gravel Co. Ltd. (w)                   | Lynn timer                        | Lynn timer           |
| Hillside Sand & Gravel Ltd. (w)                       | 1075 Main St., Vancouver          | Hillside             |
| McHattie, J. T.                                       | Royal Oak P.O., Saanich           | Saanich              |
| Nelson, City of (w)                                   | Nelson                            | Nelson               |
| Pitkethly Bros. (w)                                   | 8699 Angus Drive, Vancouver       | Vancouver            |
| Port Alberni, City of                                 | Port Alberni                      | China Creek          |
| Producers Sand & Gravel Co. (1929) Ltd. (w)           | 1902 Store St., Victoria          | Royal Bay            |
| Road Materials Ltd. (w)                               | 8699 Hudson St., Vancouver        | North Vancouver      |
| Saanich, Corporation of                               | Royal Oak P.O., Saanich           | Saanich              |
| Trail, City of (w)                                    | 1394 Pine Ave., Trail             | Trail                |
| West Kootenay Power & Light Co. Ltd. (w)              | 1387 Cedar Ave., Trail            | Trail                |

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