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# CANADA

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MINING, METALLURGICAL & CHEMICAL STATISTICS

# THE SAND AND GRAVEL INDUSTRY

IN

CANADA

1946



OTTAWA 1948

Herbert Marshall W. H. Losee H. McLeod

#### THE SAND AND GRAVEL INDUSTRY, 1946

During 1946 the commercial production of send and gravel in Canada totalled 39,949,994 tons valued at \$15,529,700, compared with the previous year's production of 29,750,703 tons valued at \$10,568,363. There was an increase of 34.3 per cent in tonnage, and 46.9 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.

The leading producers among the provinces continued to be Ontario and Quebec, the former with a tonnage of 14,881,918 and the latter with 12,374,125 tons. Canadian sand and gravel plants washed or screened 6,152,580 tons in 1946 compared with 4,584,018 tons in 1945, and the quantity of bank or pit-run grades amounted to 33,797,414 tons compared with 25,166,685 tons of the preceding year.

Of the total sand and gravel (mixed) output in 1946, there were 26,640,116 tons used for concrete, roads, etc., and 3,421,830 straight-run sand for building, concrete, etc; 32,375 tons for moulding; 2,357 tons as core sand, and 59,444 tons for other purposes. The quantity of crushed gravel produced during the year under review was 3,096,611 tons. Other sand used as mine backfill in 1946 totalled 2,023,129 tons.

Imports of sand and gravel amounted to 70,664 tons valued at \$71,101 in 1946 and exports totalled 352,819 tons worth \$234,182.

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 gravel and sand are numerous throughout Eastern Canada; with the exception of Prince Edward Island, where gravels are scarce. Owing to the widespread occurence of gravels and sands and to their bulk in relation to value, local needs for these materials are usually supplied from the nearest deposits as their cost to the consumer is governed largely by the langth of haul; hence the large number of small pits and the small number of large plants. Some grades of sand particularly suitable for certain industries command a much higher price then does ordinary sand.

"By far the greater part of the output of gravel and sand is used in road improvement, concrete works, and railway ballast. Gravel in particular has proved a good material in the building of all weather roads at low cost and its use has steadily increased with the growth of motor traffic. A considerable tonnage of sand and gravel is used in the mines for refilling underground workings. Some mines use several thousand tons a day.

"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 stockpiles, for two years' requirements. Gravel in road pits may remain unused for two years or more, and the amount of gravel produced from year to year thus fluctuates, depending upon the program of road construction and improvement. Gravel in railway pits may remain unused for several years. Part of the gravel used is crushed, screened, and in some cases even 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 is used in the building industry for concrete work, cement and lime mortar, or wall plaster. It must be free from dust, loam, organic matter, or clay, and contain little silt, and is usually obtainable from local deposits. Other important uses of sand are moulding in foundries, filtering of water supply, and glass making, all of which require special grades of sand.

Table 1 - Principal Statistics (x) for the Sand and Gravel Industry in Canada, 1945 and 1946

Province	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electri- city	Cost of pro- cess supplies and con- tainers	Gross value of products sold during year (f.o.b. works)
	No.	No.	\$	\$	\$	\$
1945						
Nova Scotia	4	296	304,914	14,322	5,954	399,771
New Brunswick	4	242	208,575	2,033	2,113	425,926
Quebec	851	836	794,773	40,597	8,730	2,061,657
Ontario	604	328	492,733	216,127	17,657	4,111,329
Manitoba	9	115	263,230	8,253	28,565	470,091
Saskatchewan	6	53	61,705	428	3,921	501,193
Alberta	4	30	67,585	11,208	5,220	379,244
British Columbia	21	174	256,442	47,124	4,138	996,328
Total	1,503	2,074	2,449,957	340,092	76,298	8,929,149
1946						
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

<sup>(</sup>x) Does not include data on sand and gravel produced by railroads. In 1945, railroad production by 21 operators was 5,177,342 tons valued at \$1,222,824. Salaries and wages paid to workers at these pits was \$309,249 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, 1935-1946

Year	Tons	\$	Year	Tons	\$
1935	21,213,489	6,389,440	1941	31,604,806	10,375,723
1936	22,124,160	6,921,399	1942	26,349,907	9,005,414
1937	27,001,301	10,492,696	1943	25,744,469	9,005,857
1938	32,223,882	12,002,554	1944	28,399,986	10,280,119
1939	31,294,341	11,241,102	1945	29,750,703	10,568,363
1940	31,375,415	11,759,245	1946	39,949,994	15,529,700
The same of the sa					

<sup>(</sup>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. Also, does not include sand used for back filling at mines prior to 1936.

Table 3 - Production in Canada of Sand and Gravel, 1945 and 1946

	Washed or	Bank or	Total
	screened	pit run	Value
	tons	tons	\$
1 9 4 5			
roduction (x) -			
Sand:			
Moulding sand	20,501	11,110	57,842
Building sand and sand for concrete, roadwork, etc	1,722,803	525,084	918,739
Core sand	1,374		2,121
Mine filling	5,530	1,969,355	376,935
Other sand (including blast sands, engine sands, etc.)	145,446	44,690	66,347
Sand and Gravel:			
Sand and gravel for railway ballast	689,297	3,936,216	1,116,297
Sand and gravel for concrets, road-building, etc	1,643,085	15,939,601	6,573,527
Crushed gravel	355,982	2,740,629	1,456,555
Total	4,584,019	25,166,685	10,568,363

Table 3 - Production in Canada of Sand and Gravel, 1945 and 1946 (Concluded)

	Washed or	Bank or	Total
	screened	pit run	Value
	tons	tons	\$
1 9 4 6			
Production (x) -			
Send:			
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

<sup>(</sup>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 Kining Industry".

Table 4 - Production of Sand and Gravel, By Provinces, 1942-1946

Province		1942	1943	1944	1945	1946
Prince Edward Island			No commerc	ial production	reported.	
Nova Scotia	Tons	775,795	917,376	911,970	1,308,848	1,105,980
	\$	371,970	585,007	411,041	555,809	484,585
New Brunswick	Tons	923,020	719,531	1,960,382	1,627,371	2,203,646
	\$	540,541	372,936	958,524	686,267	807,045
Quebec	Tons	11,026,249	10,601,376	8,541,400	8,971,960	12,374,125
	\$	2,485,853	2,362,635	2,140,856	2,279,537	3,313,103
Ontario	Tons	8,420,358	8,285,309	9,529,803	10,466,891	14,881,918
	3	3,433,986	3,620,852	4,417,427	4,466,862	6,738,595
Manitoba	Tons	1,443,001	1,048,673	1,102,448	1,497,062	1,333,890
	\$	427,150	293,938	296,086	516,380	416,431
Saskatchewan	Tons	679,979	1,288,263	1,163,097	1,237,595	1,732,731
	\$	435,798	583,687	533,175	563,276	910,661
Alberta	Tons	481,644	626,157	833,524	919,736	1,812,468
ATO COLOR OF THE PARTY OF THE P	4	218,914	309,389	328,151	433,436	1,060,703
British Columbia	Tons	2,599,861	2,257,784	4,357,362	3,721,240	4,505,236
DILUIDI OOLUMDIG	\$	1.091,202	877,413	1,194,859	1,066,796	1,798,577

Table 5 - Production of Washed and Screened and Pit Run Grades, By Provinces, 1946

Province	Washed or screened	Bank or pit run	Total Value
	tons	tons	\$
Iova Scotia	13,500	1,092,480	484,585
lew Brunswick	21,984	2,181,662	807,045
uebec	968,320	11,405,805	3,313,103
ntario	3,247,047	11,634,871	6,738,595
anitoba	249,488	1,084,402	416,431
askatchewan		1,732,731	910,661
lberta	243,204	1,569,264	1,060,703
ritish Columbia	1,409,037	3,096,199	1,798,577
Total	6,152,580	33,797,414	15,529,700

Table 6 - Production of Sand for Building and for Concrete, Roads, Etc., and Sand and Gravel for Railway

	Ballast and f	or Concrete,	Roads, Etc.	The state of the s		
	San	d		Sand and	Gravel	
Year	For buildin		For railwa	ay ballast	For con-	
	Tons	\$	Tons	\$	Tons	\$
1937	1,356,269	476,824	2,764,639	533,876	19,453,188	8,340,764
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 -						
Nova Scotia		0 0 0	144,260	21,372	878,486	439,243
New Brunswick	188,278	30,514	108,545	21,352	1,714,906	638,206
Quebec	1,341,025	607,294	421,814	88,509	8,294,378	1,686,382
Ontario	1,649,586	924,734	2,217,948	531,038	9,399,512	4,443,831
Manitoba	42,632	18,947	274,485	53,476	939,435	299,176
Saskatchewan	765	158	273,004	46,831	1,458,607	863,578
Alberta	46,954	36,298	288,575	52,170	1,335,601	875,083
British Columbia	152,590	63,627	239,492	52,868	2,619,191	1,285,219
Canada, 1946	3,421,830	1,681,572	3,968,123	867,616	26,640,116	10,530,718

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

Table 7 - Production of Moulding and Core Sand and Crushed Gravel, by Provinces, 1946

D	Moulding Sand		Core	Sand	Crushed	Gravel
Province	Tons	3	Tons	\$	Tons	\$
Nova Scotia	893	3,550			82,341	20,420
New Brunswick					191,917	116,973
Quebec				* * *	2,289,285	923,173
Ontario	31,114	57,476	2,357	4,091	782,682	588,090
Manitoba	348	348	* * *		73,757	42,927
Saskatchewan	20	45				
Alberta					135,114	95,143
British Columbia		* * *	0.4.6	***	246,624	156,469
Canada, 1946	32,375	61,419	2,357	4,091	3,801,720	1,943,195
Canada, 1945	31,611	57,842	1,374	2,121	3,096,611	1,456,555

Table 8 - Workmen (x) in the Sand and Gravel Industry in Canada, By Months, 1945 and 1946

36 43		1 9 4 5			1 9 4 6		
Month	Male	Female	Total	Male	Female	Total	
January	440		440	648	4	652	
February	422		422	660	4	664	
March	466		466	771	4	775	
April	606	1	607	871	8	879	
May	2,432	1	2,433	3,226	10	3,236	
June	5,799	1	5,800	7,520	13	7,533	
July	5,826	1	5,827	7,698	14	7,712	
August	2,552	1	2,553	3,814	14	3,829	
September	2,524	2	2,526	3,419	14	3,433	
October	851	2	853	1,286	14	1,300	
November	791	2	793	1,093	11	1,104	
December	617	1	618	830	6	836	
Average	1,976	2	1,978	2,658	12	2,670	

<sup>(</sup>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 1946 the combined amount paid by
railroads to contractors and wages paid railroad employees for the production of sand and gravel
totalled \$186,921.

Table 9 - Fuel and Electricity Used, 1945 and 1946 (x)

	Unit of	1 9	4 5	1 9	4 6
Kind	measure	Quantity	Value	Quantity	Value
			\$		\$
Bituminous coal - Canadian	short ton	3,765	35,237	4,913	47,258
Foreign	short ton	9,280	73,306	13,628	112,838
Anthracite coal	short ton	15	217	327	3,446
Coke	short ton				
Gasoline	Imp. gal.	472,221	134,791	776,134	219,540
Kerosene	Imp. gal.	1,118	246	18,829	4,085
Fuel oil	Imp. gal.	270,159	27,522	135,657	18,144
Wood	cord			45	175
Natural gas	L cu. ft.	360	180	158	95
Electricity purchased	K. W. H.	4,252,955	69,593	6,550,328	95,886
Total	***		340,092		501,467

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

Table 10 - Power Equipment, 1946

	Number of units (x)	Horse power
Steam engines	20	1,034
Steam turbines		
Diesel engines	26	2,364
Basoline, gas and oil engines	89	4,241
lydraulic turbines or water wheels	7	240
Glectric motors operated by purchased power	314	9,044
Electric motors operated by establishments' power		
Motor generator sets	* * *	
Stationary boilers	8	585

<sup>(</sup>x) Includes reserve equipment.

### PRINCIPAL SAND AND GRAVEL OPERATORS, 1946

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.

Head Office Address	Location
Wallace	Belmont
Halifax	Various
29 Commercial Rd., Least de	Debert
1454 Bloor St. W., Toronto 9, Ont.	Yarmouth
Fairville	Fairville
Saint John	East Saint John
St. Stephen	Bay Road
Fredericton	Various
Fairville	Fairville
1454 Bloor St. W., Toronto 9, Ont.	Sussex
	Wallace Halifax 29 Commercial Rd., Leaside 1454 Bloor St. W., Toronto 9, Ont.  Fairville Saint John St. Stephen Fredericton Fairville

Dome Mines Limited

Eagen, Wm.

#### Head Office Address Location Name of Firm Quebec -112 Ave. des Oblats, Quebec Ste. Foy Asselin, Adrien Lachenaie, Co. L'Assomption Mascouche Beaudry, Antoine Sainte Rose West Sainte Rose West Bigras, Omer 1434 St. Catherine St. W., Montreal South Durham Bonner Sand and Ballast Ltd. (w) 819-81eme Ave., Port Alfred Grande-Baie Bouchard, Raoul, Industriel Guigues Guigues Breen, Mary Ann St. Julienne Brouillet Sand & Gravel Co. Ltd. (w) Rawdon 6876 De Gaspe St., Montreal Pointe Calumet Camarda, Nick Sun Life Bldg., Montreal Asbestos Canadian Johns-Manville Co. Ltd. Coaticook, City of Coaticook Coaticook 10-3ieme Ave., Quebec Compagnie de Sable Ltee. (w) St. Charles River Consolidated Oka Sand & Gravel Co. Ltd.(w) 248 McCord St., Montreal Lake of Two Mountains 1740 Fourth St., Grand Mere Grand 'Mere Gagnon, Arthur St. Bruno St. Bruno Goyer, Edouard & Frere Granby Granby Granby, City of 837 Avanue Royale, Beauport Ste. Therese de Lisieux Hains, A. Limitee Laberge, Evariste Ste. Foy Ste. Foy St. Charles River 240 de la Ronde, Quebec Latulippe, Philippe (w) Magog Magog, City of Magog 505 - 80 rue Almaville-en-haut, Marchand & Frere Mont Carmel Quebec 6301 Park Ave., Montreal Charette, St. Naurice Co. Montreal Dual Mixed Concrete Ltd. 8645 rue Casgrain, Montreal Two Mountains Potier & Freres 236 rue St. Augustin, Montreal Pointe Calumet Provost Cartage Co. Ltd. Quebec Ste. Therese de Beauport Quabec, City of Ste. Therese de Beauport 929 Avenue Royale, Beauportville Robert & Dufour Enrg. St. Francis River St. Francis River Dredging Co. (w) St. Francis du Lac 19 rue Dupont, Montreal St. Henri de Mascouche Sables des Mille Iles Ltee, Les Orford Tp. Sherbrooke, City of Sherbrooke St. Emelie Standard Lime Co. Ltd. (w) Joliette Standard Sand & Gravel Ltd. (w) St. Felix de Valois St. Felix de Valois Calumet, (Oka) 248 McCord St., Montreal Telfer Construction Co. Ltd. 376 George St., Shawinigan Falls Almaville Tremblay, Jos. St. Joseph du Lac 517 Canada Cement Bldg., Montreal Two Mountains Sand Co. Lachenaie Lachenaie Venne, Oscar Ontario -Axford, J. B., & Son 35 Elm St., St. Thomas South Yarmouth Bailey, E. R. R. R. 5. Embro Oxford Waterdown Barnes, 'm. R. Co. Ltd. (w) 243 Cumberland Ave., Hamilton Bridgeport Road Bridgeport Bast, Aaron Trenton R. R. 4, Trenton Bellyou, N. E. Osgoode Osgoode Boyd Bros. R. R. 3, Niagara Falls Stamford Braas Bros. Dand Co. Brantford Brantford City, Corporation of the Brantford Widdifield Tp. Burrows, J. W. Coleman, Gordon T. (w) 647 Levery St., North Bay 235, Sydney St., Cornwall Bonville 402 Harbour Commission Bldg., Toronto Waterford, Fuller, Paris Consolidated Sand & Gravel Ltd. (w) 212 North May St., Fort William Thunder Bay Cooper, A. & Co. (w) Ops Tp. Corley, E. & Sons 94 Adelaide St. N., Lindsay Princeton Blenheim Tp. Crosby, William R. R. 1, Hensall Hensall Cudmore, Harold T. 61 Haverson Blvd., Toronto Bancroft, Hagar, Graven-Curran & Briggs Ltd. (w) hurst, Burwash, Whitefish R. R. 3, Georgetown Essa Tp. Davison, Lloyd Burnstown, Cardinal, 248 Albert St., Ottawa Dibblee Construction Co. Ltd. (w) Chesterville Dixie Dixie Sand & Gravel Limited Dixie Humberstone Tp. Dobie, Mrs. Draper (w) Port Colborne

South Porcupine

R. R. 4, Embro

Cochrane

Emb ro

ame of Firm	Head Office Address	Location
ntario - (Con.)		
Eberhart, George B.	Seaforth	Seaforth
Elgin Construction Co. Ltd.	St. Thomas	St. Thomas
Ellins Bros. (w)	304 Scarlett Rd., Toronto	Etobicoke Tp.
Elliott, Jack (w)	Box 284, Kapuskasing	O'Brien Tp.
Fewster, Stanley	R. R. 4, St. Larys	Oxford Co.
Forwell Sand & Gravel Ltd. (w)	31 Whitney Place, Kitchener	Waterloo Tp.
Foster, R. R. & Sons Limited	86 Spadina Ave., Ottawa	Britannia Heights
	R. R. 2. Wardsville	Wardsville
Foy, G. C. (w)	1910 Royal Bank Bldg.,	11010012110
Fraser Brace Ltd. (w)	360 St. James West, Montreal, Que.	Chalk River
2 22 mark Abril Warmer (m)	Rodney	Rodney
Galbraith; Frank (w)		Whitney Tp.
Gauthier, J. T.	Porcupine	Harwich Tp.
Goodreau, Charles E. (w)	R. R. 3, Northwood	Mchays Lake
Grandmaitre, Donat	71 Montreal Rd., Eastview	
Guelph Sand & Gravel Ltd. (w)	Inkerman St., Guelph	Guelph Tp.
Guelph, City of	Guelph	Guelph
Hall, Thomas G.	Box 67, Plattsville	Blenheim Tp.
Malliburton Estate	101 Strangest, Guelph	Guelph
Harvey, John R.	Box 811, Arnprior	Amprior
Hayward, Gordon	Embro	West Zorra Tp.
Highland Creek Sand & Gravel Ltd. (w)	Highland Creek	Highland Creek
Hill, Walter (w)	Merlin	Romney Tp.
Hollinger Consolidated Gold Mines Ltd.	Timmins	Tisdale Tp.
Howard Sand & Gravel Co. Ltd. (w)	Aldershot	Flamboro Z. Tp.
Jones, J. D.	R. R. 2, Wilton Grove	Wilton Grove
Jupp, A. E. Construction Co. Ltd.	56 Blake St., Toronto 6, Ontario	Medante Tp.
Kettle, Mrs. Wm.	Petrolia	Enniskillen Tp.
Keyes, Mrs. S.	R. R. 8, Woodstock	Woodstock
Kilbourne, H. & Son	London	Westminster Tp.
Kingston Sand & Gravel Ltd.	235 Wellington St., Kingston	Kingston
Kirkland, Gordon B.	R. R. 3, Lucknow	Ashfield Tp.
Liley, William	R. R. 6, London	London
Madill, Bert	R. R. 1, Arkona	Middlesex County
Martin & Dayman	Drumbo	Blenheim Tp.
McAdams, Harry	R. R. 3, Zurich	Hay Tp.
McCall, Wm.	Carleton Place	Lanark Tp.
McCready, D.	R. R. 2, Thamesford	Thamesford
McLellan, Jas. L.	Thame sford	East Nissouri
McGovern, C. L. (w)	Sherkston	Sherkston
McLean, A. B. & Sons (w)	Seult Ste. Marie	Sault Ste. Marie
	26 John St. N., Hamilton	Saltfleet Tp.
Morris, P. R. (w)	Dublin	Hibbert Tp.
Nagle, J. M.	402 Harbour Commission Bldg., Toronto	
National Sand & Material Co., Ltd. (w)	R. R. 5, Aylmer West	Elgin
Nevill, George	Box 66 River Rouge 18, Michigan USA	St. Clair River
Nicholson Transit Co. (w)		
Ontario Sand & Gravel Co. Ltd.	1211 Bathurst St. Toronto	Maple
Park Bros.	Lucan	Lucan
Parisien, Fernand	Alfred	
Quigley's Foundry Sands Ltd. (w)	Bartonville	Waterdown
Quinn, Howard	R. R. 9, Peterborough	Douro Tp.
Radford, George E.	Blyth	Blyth
Richardson, J. E.	Thamesville	Thamesville
Sarjeant Co. Ltd.	Barrie	Barrie
Sarnia Board of Parks Management (w)	184 N. Front St., Sarnia	Lake Huron
Scott, T.	R. R. 1, Seaforth	Seaforth
Shelton, Russell A.	R. R. 5, Ingersoll	Durham '
Smythe, C. Ltd. (w)	Box 8, Postal Station D. Toronto 9	Mt. Dennis
Speiran, G. A.	R. R. 2, Brussels	Guy Tp.
Spratt, G. H. (w)	Billings Bridge	Gloucester Tp.
Sutherland, Hugh A.	R. R. 4, Embro	Oxford Co.
Tees Transit Co. (w)	58 Whitton Road, Hamilton	Niagara Bar
Towland Construction Co. Ltd.	294 Dundas St., London	West Nissouri Tp.

# PRINCIPAL SAND AND GRAVEL OPERATORS, 1946 (Continued)

Name of Firm	Head Office Address	Location
Ontario - (Con.)		
United Towing & Salvage Co. Ltd. (w)	635 Common St. Montreal	Thunder Bay
Warren Bituminous Paving Co. Ltd.	1454 Bloor St. West, Toronto	Smith Tp.
	R. R. 3, Woodbridge	Woodbridge
Woodbridge Sand and Gravel Co.	2171 Ottawa St., Windsor,	Leamington
Wooliatt Fuel & Supply Co. Ltd. (w)		
Wylie, Greer	Wingham	Huron Tp.
Yundt, William (w)	29 Downie St., Stratford	Ellice Tp.
Manitoba -		
Alsip Brick, Tile & Lumber Co. Ltd.	537 Portage Ave., Winnipeg	Beausejour
Brandon, City of	City Hall, Brandon	Brandon
Building Products & Coal Co. Ltd.	111 Christie St., Winnipeg	Birds Hill
Cumming & Dobbie	233 Ninth Street, Brandon	Brandon
Greater Winnipeg Water District	185 King St., Winnipeg	Mile 39 and Mile 80
		G. W. WD Ry.
Manitoba Department of Highways	Winnipeg	Various
McCurdy Supply Co. Ltd. (w)	Sargent & Erin Streets, Winnipeg	*****
Provincial Gravel & Coal Co.	608-356 Main Street, Winnipeg	* * * * * * *
Rosser, Municipality of	Rosser	Rosser
Universal Lumber & Supply Co.	1034 Arlington St. Winnipeg	Molson
Winnipeg, City of	223 James Ave., Winnipeg	Birds Hill
The second secon		
Saskatchewan -	Pilot Butte	Pilot Butte
Betteridge, Stanley		Biggar
Eamon, H.G. & Co.	Biggar	
Elander, John	Flin Flon	Flin Flon
Hudson Bay Mining & Smelting Co. Ltd.	500 Royal Bank Bldg., Winnipeg, Kan.	
North Battleford, City of	1201 King St., North Battleford	North Battleford
Prince Albert, City of	Prince Albert	Prince Albert
Saskatchewan Department of Highways	Regina	Various
Alberta -		
Alberta Department of Highways	Edmonton	Various
Doncaster Construction Co. Ltd.	Garneau Theatre Bldg., Edmonton	Edmonton
Cristall Sand Ltd.	10165-104 St., Edmonton	Perryvale
Jefferies & Sons Limited (w)	Calgary	Calgary
Mountain View, District of	Didsbury	Mountain View
Nanton, Town of	Nenton	Nanton
Western Engineers Ltd.	300 Leeson Lineham Bldg., Calgary	Calgary
British Columbia -		
Armstrong, City of	P.O. Box 40, Armstrong	Armstrong
B. C. Electric Ry. Co.	Vancouver	Various
British Columbia Department of Highways	Victoria	Various
	New Westminster	Burnaby
Burnaby, District of		
Chilliwack, City of	Chilliwack	Chilliwack Tp.
Colebrook Sand & Gravel Co. Ltd.	Box 120, White Rock	Surrey Municipality
Consolidated Mining & Smelting Co.		T
of Canada Ltd.	Trail	Fort Steele and Tadans
Cranbrook, City of (w)	Cranbrook	Fort Steele
Deeks Sand & Gravel Co. Ltd. (w)	101 West First Ave., Vancouver	Seymour Creek, North Vancouver and Coquit:
Delta, Corporation of	Ladner	Ladner
Fernie, City of	Fernie	Fort Steele
Gilley Bros. Ltd. (w)	902 Columbia St., New Westminster	Port Coquitlam
	Armstrong	Larkin
Greening, Wm. H.	Lynmour	Lynmour
Highland Sand & Gravel Co., Ltd. (w)		Hillside
Hillside Sand & Gravel Ltd. (w)	1075 Main St., Vancouver	
Kamloops City of	288 First Avenue, Kamloops	Kamloops Cordova Par
McIntyre & Harding Gravel Co., Ltd. (w)	Saanich	Cordova Bay
Nelson, City of (w)	501 Front St., Nelson	Nelson
Pitkethly Bros. (w)	8699 Angus Drive, Vancouver	Vancouver

## PRINCIPAL SAND AND GRAVEL OPERATORS, 1946 (Concluded)

Name of Firm	Head Office Address	Location
British Columbia - (Concluded)		
Port Alberni, City of Producers Sand & Gravel Co., (1929)	Port Alberni	Port Alberni
Ltd. (w)	1902 Store Street, Victoria	Royal Bay
Road Materials Ltd. (w)	8699 Hudson St., Vancouver	North Vancouver
Saanich, District of	Royal Oak P. O., Vancouver Island	Saanich District
Trail, City of	1394 Pine Avenue. Trail	West Kootenay