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DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY

MINING, METALLURGICAL & CHEMICAL BRANCH



THE SAND AND GRAVEL INDUSTRY

IN

CANADA

1944



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THE SAND AND GRAVEL INDUSTRY, 1944

Commercial production of sand and gravel in Canada during 1944 totalled 28,399,986 short tons valued at \$10,280,119 compared with 25,744,469 short tons worth \$9,005,857 in 1943. Included in the totals for both years are sands and gravels from various sources, including recoveries by dredges and material used by railroads as ballast and by mines as backfill.

Quebec and Ontario are Canada's largest sand and gravel-producing provinces, the tonnage produced in these provinces in 1944 being, respectively, 8,541,400 and 9,529,803; in 1944 the quantity of material washed or screened at Canadian sand and gravel plants totalled 3,442,147 short tons as against 2,842,803 tons in 1943, and the quantity of bank or pit-run grades amounted to 24,957,839 short tons compared with 22,901,666 tons in the preceding year.

Of the total sand and gravel (mixed) output in 1944, there were 16,648,511 tons used for concrete, roads, etc., and 4,428,721 short tons as railroad ballast. In addition, there were produced 1,605,514 short tons of straight-run sand for building, concrete, etc.; 31,947 tons for moulding; 7,275 tons as core sand and 43,238 tons for other purposes. The quantity of crushed gravel produced during the year under review amounted to 2,627,358 short tons. Other sand used as mine fill in 1944 totalled 3,007,422 tons.

Firms (including individuals) reported as active in the Canadian sand and gravel industry numbered 1,541 in 1944; of these, 871 were located in Quebec, 605 in Ontario, 26 in British Columbia and lesser numbers in Nova Scotia, New Brunswick, Manitoba, Saskatchewen and Alberta. Employees were reported at 1,773; salaries and wages paid totalled \$2,494,657; fuel, electricity and process supplies used aggregated \$391,738 and the total net value of production was estimated at \$9,888,381.

Canadian exports of sand and gravel totalled 291,942 short tons valued at \$182,584 in 1944 compared with 382,319 tons worth \$212,503 in 1943. Imports of sand and gravel in 1944 totalled 83,502 short tons valued at \$57,775 as against 83,482 tons worth \$53,377 in 1943.

Imports into Canada of silica sand for manufacturing totalled 457,603 short tons valued at \$914,390 in 1944 compared with 509,043 tons worth \$1,011,117 in 1943.

The annual report on sand and gravel for 1944 as prepared by the Bureau of Mines, Ottawa, contains the following information: -

*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 occurrence 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 length 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 than does ordinary sand.

"By far the greater part of the output of gravel and sand is used in road improvement, concrete works, and railway bellast. 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.

"The amount of sand consumed follows the trend of building activity, as most of it is used in the building industry for concrete work, cement and lime mortar, or wall plaster. The sand must be free from dust, loam, organic matter, or clay and must contain only a little silt. It is usually obtainable from local deposits.

"Much sand is used also for moulding in foundries, filtering of water supply, and in making glass, all of which require special grades of sand.

*Prices of sand, gravel, and crushed stone in the four largest cities in Canada were as follows, at the end of 1943 and 1944. Prices, per ton or cubic yard, as indicated below, are for carlots, f.o.b. cars:

	Mont	real	Tor	onto	Winni	peg	Vanc	ouver
	per 1943	ton 1944	per 1943	ton 1944	per cu 1943	. yd. 1944	per c	u. yd. 1944
Sand	\$1.15 1.10 0.98	\$1.20 1.10 0.97	\$1.01 1.55 1.67	\$1.04 1.55 1.72	\$1.00 1.00	\$1.00 1.00	\$1.00 1.00 1.10	\$1.00 1.00 1.10

	Washed or	Bank or	TOTAL
	screened	pit run	VALUE
1943			
2			
roduction (x) -			
Sand: Moulding sand	28,013	14,643	76,199
Building sand and sand for concrete, roadwork, etc.	1,153,953	816,363	775,392
Core sand	1,335	010,000	2,032
Mine filling	118,838	1,367,747	270,863
Other sand (including blast sands, engine sands, etc.)	4,959	70,929	15,577
office, sound (Illoring prose sounds, cuerte sounds, sec.)	1,303	10,000	20,011
Sand and Gravel:			
Sand and gravel for railway ballast	81,697	3,755,414	712,140
Sand and gravel for concrete, road-building, etc.	1,247,057	14,813,629	6,155,625
Crushed gravel	206,951	2,062,941	998,029
TOTAL	2,842,803	22,901,666	9,005,857
Cost of fuel, electricity and process supplies used			379,435
TOTAL NET VALUE			8,626,422
1944			
Production (x) -			
Sand:			
Moulding sand	19,935	12,012	65,168
Building sand and sand for concrete, roadwork, etc.	1,289,094	316,420	743,191
Core sand	7,275		4,408
Mine filling	247	3,007,175	397,578
Other sand (including blast sands, engine sands, etc.)	7,781	35,457	14,353
Sand and Gravel:			
Sand and gravel for railway ballast	339,982	4,088,739	900,610
Sand and gravel for concrete, road-building, etc	1,430,953	15,217,558	6,898,582
Crushed gravel	346,880	2,280,478	1,256,229
TOTAL	3,442,147	24,357,839	10,280,119
Cost of fuel, electricity and process supplies used	***		
TOTAL NET VALUE			

⁽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 Fedspar and Quartz Mining Industry".

Table 2 - PRODUCTION(x) OF SAND AND GRAVEL IN CANADA, 1935-1944

Year	Tons	\$	Year	Tons	*
1935	21,213,489	6,389,440	1940	31,375,415	11,759,245
1936	22,124,160	6,921,399	1941	31,604,806	10,375,723
1937	27,001,301	10,492,696	1942	26,349,907	9,005,414
1938	32,223,882	12,002,554	1943	25,744,469	9,005,857
1939	31,294,341	11,241,102	1944	28,399,986	10,280,119

⁽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 OF SAND AND GRAVEL, BY PROVINCES, 1940-1944

Province		1940	1941	1942	1943	1944
Prince Edward Island	Tons	(x)	(x)	(x)	(x)	(x)
	ş	(x)	(x)	(x)	(x)	(x)
Nova Scotia	Tons	1,440,140	749,441	775,795	917,376	911,970
	\$	867,490	332,531	371,970	585,007	411,04
New Brunswick	Tons	944,033	962,483	923,020	719,531	1,960,38
	\$	278,710	423,772	540,541	372,936	958,52
Quebec	Tons	12,177,624	11,681,390	11,026,249	10,601,376	8,541,40
	\$	3,127,931	2,673,300	2,485,853	2,362,635	2,140,85
Ontario	Tons	9,678,745	11,569,382	8,420,358	8,285,309	9,529,80
	\$	4,025,026	4,524,463	5,433,986	3,620,852	4,417,42
Manitoba	Tons	1,851,645	1,503,901	1,443,001	1,048,673	1,102,44
	*	839,993	429,996	427,150	293,938	296.08
Saskatchewan	Tons	1,472,885	1,220,801	679,979	1,288,263	1,163,09
	8	741,353	406,835	435,798	583,687	533,17
Alberta	Tons	1,722,465	956,484	481,644	626,157	833,52
	\$	1,069,677	433,504	218,914	309,389	328,15
British Columbia	Tons	2,087,878	2,960,924	2,599,861	2,257,784	4,357,36
various various villes	\$	809,075	1,151,322	1,091,202	877,413	1,194,85

⁽x) No commercial production reported.

Table 4 - PRODUCTION OF WASHED AND SCREENED AND PIT RUN GRADES. 1944

Depart was	Washed or	Bank or	TOTAL
Province	screened	pit run	VALUE
	tons	tons	\$
lova Scotia	117,617	794,353	411,041
ew Brunswick	70,478	1,889,904	958,524
uebec	517,779	8,023,621	2,140,856
ntario	1,694,854	7,834,949	4,417,427
anitoba	294,938	807,510	296,086
askatchewan	***	1,163,097	533,175
lberta	59,048	774,476	328,151
ritish Columbia	687,433	3,669,929	1,194,859
TOTAL	3,442,147	24,957,839	10,280,119

Table 5 - PRODUCTION OF SAND FOR BUILDING AND CONCRETE, ROADS, ETC., AND SAND AND GRAVEL FOR RAILWAY
BALLAST AND FOR CONCRETE, ROADS, ETC., 1935-1944

			ETE, RUADS,	Erc., 1935-19	144	
	Sano			Sand	and Gravel	
Year	For building		For reils	ray ballast	For co	ncrete,
	crete, road:	s, etc.(x)		ay parrage	roads,	etc.
	Tons	*	Tons	*	Tons	\$
1055						
1935	787,412	264,435	2,267,195	415,092	17,531,047	5,357,331
1936	956,502	362,542	6,318,681	1,054,703	14,336,640	5,216,942
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
1344 -		- /				
Nova Scotia			137,859	22,259	678,902	309,671
New Brunswick	202	30	267,095	77,158	1,320,948	662,022
Quebec	710,067	268,043	1,010,779	198,084	5,142,041	1,055,912
Ontario	725,403	403,156	1,553,024	344,685	5,997,090	3,145,153
Manitoba	30,103	13,116	340,879	56,164	723,678	225,069
Saskatchewan	1,019	202	453,759	77.535	697,631	448,304
Alberta	7,078	7,965	381,658	62,461	409,464	225,793
British Columbia	131,642	50,679	283,668	62,264	1,678,757	826,658
CANADA, 1944	1,605,514	743,191	4,428,721	900,610	16,648,511	6,898,582
Ontentar, 1927	1,000,014	740,131	4,400,1CI	300,610	10,040,011	0,030,082

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

Table 6 - PRODUCTION OF MOULDING AND CORE SAND AND CRUSHED GRAVEL, 1944

D	Mouldi	ng Sand	Core	Sand	Crushe	d Gravel
Province	Tons	\$	Tons	\$	Tons	3
Nova Scotia	1,063	3,960			94,146	75,151
New Brunswick					372,137	219,314
Quebec			5,800	2,030	1,670,269	615,938
Ontario	30,516	60,912	1,475	2,378	374,804	250,046
Menitoba	351	260			5,750	852
Saskatchewan	17	36	* * *		6,635	4,790
Alberta					19,559	28,976
British Columbia					84,058	61,162
CANADA, 1944	31,947	65,168	7,275	4,408	2,627,358	1,256,229
CANADA, 1943	42,656	76,199	1,335	2,032	2,269,892	998,029

Table 7 - PRINCIPAL STATISTICS OF THE SAND AND GRAV	EL IN	DUSTRY IN CANAD	A(x) 1942-1944	
		1942	1943	1944
Number of firms		1,419	1,387	1,541
Capital employed	\$	4,477,547	3,674,501	(/)
Number of employees - On salary		113	89	106
On wages		2,028	2,231	1,667
Total		2,141	2,320	1,773
Salaries and wages - Salaries	4	224,868	182,034	213,270
Wages	*	2,179,887	2,501,223	2,281,387
Total	\$	2,404,755	2,683,257	2,494,657
Selling value of sand and gravel produced by rail-				
way companies (Gross)	¥	844,829	823,067	1,035,932
Selling value of sand and gravel produced by other				
operators (Gross)	#	8,160,585	8,182,790	9,244,187
Total Selling Value of Sand and Gravel				
Produced (Gross)	\$	9,005,414	9,005,857	10,280,119
Cost of fuel and electricity	*	509,190	322,202	333,259
Cost of process supplies used	\$	167,959	57,233	58,479
TOTAL NET VALUE OF PRODUCTION	\$	8,328,265	8,626,422	9,888,381

⁽x) Includes data relating to sand production by dredgers and railways.

^(≠) Not reported in 1944.

Table 8 - CAPITAL EMPLOYED, NUMBER OF EMPLOYEES, SALARIES AND WAGES PAID, AND FUEL AND ELECTRICITY CONSUMED. BY PROVINCES. 1943 and 1944

	Number	Capital	Number	Salaries	Cost of fuel	Cost of pro-	Net value
Province	of	employed	of em-	and	and electri-	cess sup-	of pro-
	operators	(x)	ployees	wages	city used	plies used	duction
1943							
Nova Scotia	5	(x)	614	552,647	(x)	(x)	585,007
New Brunswick	4	5,000	138	119,670	(x)	(x)	372,936
Quebec	812	250,077	781	810,722	34,158	11,889	2,316,588
Ontario	517	1,260,097	336	469,591	221,425	14,638	3,384,789
Manitoba	10	543,568	187	291,308	10,733	15,099	268,106
Saakatchewan	10	113,692	36	68,238	811	12,212	570.664
Alberta	6	58,071	84	143,576	11,388	1,572	296,429
British Columbia	23	1,443,996	144	227,505	43,687	1,823	831,903
1944							
Nova Scotia	7	(<i>f</i>)	153	139,187	1,494	250	409.297
New Brunswick	7	(/)	261	232,969	5,415	1,355	951,754
Quebec	871	(4)	628	794,047	31,890	7,475	2,101,491
Ontario	605	(<i>f</i>)	330	569,057	228,163	20,496	4,168,768
Manitoba	12	(4)	164	313,334	10,305	13,659	272,122
Saskatchewan	7	(7)	17	52,643	675	10,052	522,448
Alberta	6	(4)	67	137,815	10,912	2,004	315,235
British Columbia	26	(<i>I</i>)	153	255,605	44,405	3,188	1,147,266

⁽x) Complete data not available.
(/) Not recorded in 1944.

Table 9 - FUEL AND ELECTRICITY USED, 1943 and 1944

Kind	Unit of	1 9	4 3	1 9	4 4
	measure	Quantity	Value	Quantity	Value
			*		\$
Bituminous coal - Canadian	ahort ton	5,063	42,785	4,188	34,039
Foreign	short ton	9,348	67,849	14,362	104,334
Anthracite coal	short ton			251	2,566
Coke	short ton	0 0 0			
Gasoline	Imp. gal.	332,133	98,011	404,714	119,535
Gerosene	Imp. gal.	1,045	231	1,872	329
Puel oil	Imp. gal.	97,224	13,326	120,765	11,762
Wood	cord	10	35		
Natural gas	M cu. ft.			62	37
Electricity purchased	K.W.H.	10,859,629	99,965	5,164,909	60,657
TOTAL	• • •	***	322,202		333,259

Table 10 - AVERAGE NUMBER OF WAGE-EARNERS, BY MONTHS, 1939-1943

Month	1939	1940	1941	1942	1943(a)	1944(b)
January	203	274	450	369	333	377
February	245	268	440	434	358	370
March	340	346	517	524	367	379
April	821	629	815	782	665	556
May	11,054	3,275	4,400	3,796	3,310	2,492
June	13,444	8,182	8,493	5,352	5,155	5,536
July	13,591	11,504	8,023	4,787	5,753	3,953
August	12,451	11,526	7,225	3,183	4,247	2,412
September	10,253	8,644	3,421	1,835	2,870	1,468
October	5,199	3,372	2,570	1,142	2,095	711
November	1,032	886	764	954	714	636
December	382	628	412	528	480	499

⁽a) Average for year 2,227 males and 4 females.

⁽b) Average for year 1,662 males and 5 females.

Table 11 - NUMBER OF WAGE-EARNERS WHO WORKED THE NUMBER OF HOURS SPECIFIED, DURING ONE WEEK IN MONTH OF

Hours	Number	Hours	Number
	70	E1 E4 house	53
30 hours or less	30	51-54 hours	
31-43 hours	61	55 hours	. 30
44 hours	55	56-64 hours	247
45-47 hours	35	65 hours and over	. 187
48 hours	4,237	GRAND TOTAL	. 4,966 (a)
49-50 hours	31	Total wages paid in that week	. \$ 101,895 (ъ)

(a) includes 2 females.

(b) includes \$37 paid to females.

Table 12 - POWER EQUIPMENT INSTALLATION, 1944

	Number of units (x)	Horse power
	10	0.40
Steam engines	12	747
Steam turbines	* * *	
Diesel engines	14	1,303
Gasoline, gas and oil engines	76	3,212
Hydraulic turbines or water wheels	7	240
Electric motors operated by purchased power	205	7,109
Electric motors operated by establishments' power	2	45
Motor generator sets	5	1,612
Stationary boilers	10	668

(x) Includes reserve equipment.

NOTE: 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 1944 the combined amount paid by railroads to contractors and wages paid railroad employees for the production of sand and gravel totalled \$269,458.

MOULDING SAND (NATURAL BONDED) IN 1944 (Bureau of Mines, Ottawa)

Moulding sands are mixtures of sand and clay which, when moist, can be formed into moulds from which metal castings can be made. When suitable mixtures occur they are called natural bonded moulding sands. (Mechanically prepared moulding sand is made by the addition of bonding clay to silica).

In Canada, natural bonded moulding sands usually occur in shallow beds, sometimes of fairly uniform thickness over a considerable area, but in most cases of irregular thickness. These beds are always near the surface. The best natural bonded moulding sands are composed of fairly pure silica sand and plastic refractory clay. The clay bonding content varies approximately from 3 per cent to 30 per cent.

Every province except Prince Edward Island produces natural bonded moulding sand. At one time that province produced small quantities for local use. By far the greater part of the output, generally over 90 per cent, comes from the Niagara Peninsula in Ontario. Occasionally, new deposits have been opened up, mostly in Ontario and in the Prairie Provinces.

The results of a general investigation of moulding sands in Canada were published in 1936 by the Bureau of Mines, Ottawa, in Report No. 767 (No. 768, French edition), "Natural Bonded Moulding Sands of Canada". This report directs attention to the large number of deposits from which supplies have been obtained for local foundries and the possibility of replacing imported material with Canadian sands.

The Canadian production in 1944 was 31,947 tons valued at \$65,168, compared with 42,656 tons valued at \$76,199 in 1943. Small quantities of moulding sands not tabulated in official records are produced in nearly all the provinces by foundrymen for their own use from nearby deposits, or by part-time operators such as farmers, for local foundries. Silica sands without clay bond, used mainly in steel foundries, are not included in the above production figures.

MOULDING SAND (NATURAL BONDED) IN 1944 (Continued) (Bureau of Mincs, Ottawa)

Imports are not recorded separately, but are mostly from the United States. They greatly exceed production. Moulding sands, core sands, and other sands and gravels enter Canada duty free.

Consumption of moulding sand, core sand, silica, and other foundry sands for nine basic Canadian industries in 1943 approximated 250,000 tons.

PRINCIPAL SAND AND GRAVEL OPERATORS, 1944

In addition to the namew 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
NOVA SCOTIA -		
Crocket, V. B.	Wallace	Colchester Co.
Nova Scotia Department of Highways	Halifax	Various
Warren Bituminous Paving Co. Ltd.(w)		Yarmouth
MILLON DIVINENDADIOVAND CON DOLL (11)	Tion Dades of Mil Tolerand, Care	
NEW BRUNSWICK -		
Likely, Jos. A. Ltd. (w)	Saint John	East Saint John
New Brunswick Department of Highways	Fredericton	Verious
Warren Bituminous Paving Co. Ltd. (w)		Sussex
QUEBEC -		
Beaudry, Antoine	1706 Plessis, Montreal	St. Henri
Bigras, Omer	Ste. Rose Ouest	Ste. Rose Ouest
Bonner Sand & Ballast Ltd. (w)	1434 St. Cetherine St. W., Montreal	South Durham
Breen, Thos.	Kearns	Gui gues
Brouillet Sand & Gravel Co.	Rawdon	Ste. Julienne
Canadian Johns Manville Co. Ltd.	Sun Life Bldg., Montreal	Asbestos
Coaticook, City of	Coaticook	Coaticook
Compagnie de Sable Ltee (w)	10 - 3eme Ave., Quebec	St. Charles River
Consolidated Oka Sand & Gravel		
Co. Ltd. (w)	248 McCord St., Montreal	Lake of Two Mountains
Gagnon, Arthur	Grand mere	Garneau Jct.
Goyer, Edouard & Frere	Saint Bruno	St. Bruno
Granby, City of	Granby	Granby
Laberge, Evariste	Ste. Foy	Ste. Foy
La Corporation de la Ville de Magog	Magog	Magog
Latulippe, Philippe (w)	240 rue de la Ronde, Quebec	St. Charles River
Marchand, Euclide	505-8e rue Almaville-en-haut	Mont Carmel
Mercure, Camille	555-16eme Ave., St. Hyacinthe	St. Dominique
Potier & Freres	8645 rue Casgrain, Montreal	Two Mountains
Quebec, City of	Quebec	Ste. Therese de Beaupor
Rimouski, City of	Rimouski	Rimouski
Riverin, Jean-Joseph Ltee	115 Jacques Cartier, Chicoutimi	Various
Robert & Dufour Enrg.	Ste. Anne de Beaupre	Beauport West
St. Francis River Dredging Co.(w)	St. Francois du Lac	St. Francis River
Sherbrooke, City of	Sherbrooke	Orford Tp.
Standard Lime Co. Ltd. (w)	Joliette	Ste. Emelie
Standard Sand & Gravel Ltd. (w)	St. Felix de Valois	St. Felix de Valois
Tremblay, Jos. Ltee	376 rue Georges, Shawinigan Falls	St. Mathieu
Venne, Oscar	Lachenaie	Lachenaie

PRINCIPAL SAND AND GRAVEL OPERATORS, 1944 (Continued)

Head Office Address	Location
The state of the second of the second	
R. R. 3 Seaforth	Seaforth
	South Yarmouth
	Waterdown
	Winona
Stamford	Stamford
Osgoode	Osgoode
Niagara Falls	Stanford
Brantford	Brantford
North Bey	Widdifield Tp.
	Port Maitland
	Bonville
	Scarboro Tp.
	Fuller, Paris and
	Waterford
212 N. May St., Fort William	Thunder Bay
	Hensall
	Wilberforce, Brooke
of Haverson Bivas, 1010H00	Bancroft
248 Alhowt St Ofters	Bowesville Road
	Etobicoke Tp.
	Oxford Co.
	Waterloo
	Britannia Heights
•	Whitney Tp.
	Harwich Tp.
	Rockliffe Village
	Blenheim Tp.
	Tisdale Tp.
	Flamboro Tp.
	Pickering Tp.
	Kingston Tp.
	Trenton
	Sault Ste. Marie
	River
U. S. A.	Eastern Cap
Bartonville	Waterdown
	Fergus & Geraldton
R.R. 1, Seaforth	McKillop Tp.
Box 8, Postal Station D, Toronto 9	Mt. Dennis
Billings Bridge	Billings Bridge
58 Whitton Rd., Hamilton	Niagara Bar
294 Dundas St., London	Bentinck Tp.
635 Common St., Montreal, P.Q.	Lake Superior
209 N. Vidal St., Sarnia	Sarnia Tp.
2171 Ottawa St., Walkerville	Leamington
537 Portage Ave., Winnipeg	Beausejour
City Hall, Brandon	Brandon
	Bird's Hill
	Mile 31 and Mile 80
200	G.W.W.D. Ry.
Winning	Various
Winnipeg 1034 Arlington St., Winnipeg	Various
	R. R. 3 Seaforth 35 Elm St., St. Thomas 243 Cumberland Ave., Hamilton Winons Stamford Osgoode Niagara Falls Brantford North Bay Welland 235 Sidney St., Cornwall 66 King St. W., Toronto 402 Harbour Commission Bldg., Toronto 212 N. May St., Fort William Hensall 61 Haverson Blvd., Toronto 248 Albert St., Ottawa 304 Scarlett Rd., Toronto 9 R.R. 4, St. Marys 31 Whitney Place, Kitchener 86 Spadina Ave., Ottawa Porcupine Northwood 71 Montreal Rd., Eastview Plattsville Timmins Alderahot 56 Blake St., Toronto 235 Wellington St., Kingston Trenton Sault Ste. Marie 402 Harbour Bldg., Toronto 9690 W. Jefferson Ave., Detroit, Mich., U. S. A. Bartonville 29 Commercial St., Leaside R.R. 1, Seaforth Bor 8, Postal Station D, Toronto 9 Billings Bridge 58 Whitton Rd., Hamilton 294 Dundas St., London 635 Common St., Montreal, P.Q. 209 N. Vidal St., Sarnia 2171 Ottawa St., Walkerville

PRINCIPAL SAND AND GRAVEL OPERATORS, 1944 (Continued)

Name of Firm	Head Office Address	Location
SASKATCHEWAN -		
Betteridge, Stanley	Pilot Butte	Pilot Butte
Hudson Bay Mining & Smelting Co.Ltd.	500 Royal Bank Bldg., Winnipeg, Man.	Flin Flon
Prince Albert, City of	Prince Albert	Prince Albert
Saskatchewan Department of Highways	Regina	Various
ALBERTA -		
Alberta Department of Highways	Edmonton	Various
Cristall Sand	10165 - 104th St., Edmonton	Perryvale
Jefferies & Sons Ltd. (w)	Calgary	Calgary
BRITISH COLUMBIA -		
British Columbia Department of		
Highways	Victoria	Various
Chilliwack, City of	Chilliwack	Chilliwack Tp.
Consolidated Mining & Smelting Co.		
of Canada Ltd.	Trail	Fort Steele and Tadanac
Deeks Sand & Gravel Co. Ltd. (w)	101 West 1st Ave., Vancouver	Coquitland, North Vancouve
		and Seymour Creek
Gilley Bros. Ltd. (w)	902 Columbia St., New Westminster	Port Coquitlam
Gravel Contractors Ltd.	Dawson Creek	Pouce Coupe River
Highland Sand & Gravel Co. Ltd.(w)	Lynnmour	Lynmour
Hillside Sand & Gravel Co.Ltd.(w)	1075 Main St., Vancouver	Hillside
McIntyre & Harding Gravel Co.Ltd.(w)	Royal Oak P.O., Saanich	Victoria
Nelson, City of (w)	501 Front St., Nelson	Nelson
Pitkethly Bros. (w)	8699 Angus Drive, Vancouver	Vancouver
Port Alberni, City of	Port Alberni	Alberni District
Producers Sand & Gravel Co.		
(1929) Ltd. (w)	1902 Store St., Victoria	Royal Bay
Road Materials Ltd. (w)	8699 Hudson St., Vancouver	North Vancouver
Saanich, District of	Royal Oak P.O., Vancouver Island	Saanich Municipality

