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SAND AND GRAVEL, 1934.

Sand and gravel production in Canada during 1934 amounted to 14,854,159 short tons valued at \$4,035,477 as compared with 11,738,823 short tons worth \$4,464,285 in 1933, according to finally revised statistics just issued by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics at Ottawa.

Increases over the preceding year in the tonnage of shipments were recorded for New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta, and of the total quantity produced Quebec contributed 24.7 per cent and Ontario 53.1 per cent. Of the total shipments of sand and gravel in 1934, 686,631 tons of "sand" valued at \$209,002 were reported for building purposes, including concrete, roads, etc.; 1,454,618 tons of "sand and gravel" worth \$266,292 were utilized as railway ballast and 12,418,408 tons valued at \$3,411,751 were consumed in concrete, highway construction, etc. "Sand and gravel" used for railway ballasting in 1934 showed increases of 159 per cent in quantity and 141 per cent in value over 1933 while the same material employed in the making of concrete and construction of roads realized a 24.7 per cent increase in tonnage but declined 12.7 per cent in value as compared with the corresponding shipments in the preceding year.

Imports of sand and gravel $(n_{\circ}\circ,p_{\circ})$ into Canada in 1934 totalled 61,136 tons valued at \$56,900 as compared with 89,017 tons worth \$72,480 in 1933. Silica sand imported for glass and carborundum manufacture and for use in steel foundries, filtration plants, sand blasting, etc., totalled 96,165 tons appraised at \$226,188 and of these imports the United States contributed 92.7 per cent while almost the entire balance came from Belgium. Imports of silex or crystallized quartz, ground or unground, amounted to 2,323 tons valued at \$53,430 as against 4,370 tons at \$82,823 in 1933.

Exports of sand and gravel in 1934 totalled 88,011 tons worth \$17,079 as compared with 102,174 tons appraised at \$15,801 in the preceding year,

The annual survey of the Canadian sand and gravel industry determined active shippers in 1934, Excluding statistics regarding sand and gravel operations of railway companies, the fixed and current assets of operators in this industry amounted to \$4,377,551. The industry as a whole distributed \$1,236,819 in salaries and wages to 1,911 employees and consumed fuel and electricity evaluated at \$155,194.

Every province in Canada, with the exception of New Brunswick and Prince Edward Island, is producing some grade of moulding sand. For several years past the Mines Branch, Department of Mines, Ottawa, has been conducting a general investigation into "Natural Bonded Moulding Sands of Canada" with particular reference to available data concerning all known deposits. Outstanding features shown by this investigation are the large number of deposits from which supplies have been used for local foundri s

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and the probability of replacing some imported material with Canadian sands. The Department of Mines, Ottawa, reports that Canadian producers of silica sand are steadily improving their position and each year sees an increasing use of their products, also the use of Canadian sand for sand blasting is increasing and the prospects are promising for a still further use of Canadian material for this purpose.

"Moulding sands are of two general classes -- those without and those with natural bonding material, which may consist of clay or loam. The former frequently comes from glass-sand deposits and may contain 98 per cent to 99 per cent silica, Sands without natural bond being more refractory are required for steel moulding; refractory clay or other suitable bond is, however, added before use The silica minerals employed for filtration and clarification comprise ordinary sand, diatomaceous In the filtration of water the sand acts as a support for earth, and tripoli. an organic bacterial jelly which forms in the sand bed after contact with water for This jelly causes the removal of sediment and suspended matter and a week or two. reduces the bacterial count of the water. Grain size of filter sand is important, also a quite high silica content, and the specification frequently includes a maximum of acid-soluble matter and lime and magnesium carbonates.... The two well-known commercial varieties of vitreous silica, transpartent and opaque or translucent, are of about equal chemical purity, a silica content of approximately 29,8 per cent being the usual standard. The usual raw materials for vitreous silica are quartz crystal for the transparent and high guality glass sand for the non-transparent varieties. Transparent ware is usually made today in electric vacuum furnaces from selected rock crystal, after crushing and washing in acid and water; present products range, in the opaque ware, from tubing measuring a fraction of a millimeter internally, to pots holding 15) gallons and pipes 2 feet or more in diameter Glass for optical purposes, tableware and plate glass, require silica sand of very high purity, 98.5 per cent to 99.8 per cent of silica with a minimum of ferric oxide and usually to somewhat rigid screen specifications; glass sand is usually produced from soft, easily crushed sandstone of high purity. The soluble glasses of which sodium silicate or waterglass is a familiar example are important; the usual process for the manufacture of sodium silicate is by the interaction of high-grade sand with soda ash; the sand specifications are similar to those applying to regular commercial glasses, a low alumina content being important in order that the resulting silicate shall be readily soluble Enamels are essentially opaque glasses, and the purity requirements for silica used in their composition are very similar to those for glass manufacture, but very finely ground silica is employed, and flint and chalcedonic quartz seem to possess advantages here The requirements for sand in sand-lime brick manufacture are not rigid, size being more important than extreme chemical purity, sufficient of the sand having to be in fine condition to form the calcium monosilicate bond; most of the sand acts simply as the aggregate forming the body of the brick. Silica in the form of sand or crushed quartz, usually the former on account of cheapness, serves as the source of silicon in manufacturing silicon carbide for The sand must contain 99.0 per cent to 99.5 per cent abrasive and refractory use. of silica and of possible impurities, iron is particularly objectionable; a good grade of glass sand is generally used. Crushed quartzite is generally used as a source of silicon in the manufacture of ferrosilicon alloys; the requirements of quality for the quartzite are very much the same as for silica brick, but in this case the percentage of iron is unimportant...; silica brick are usually made from quartzite analyzing 97 per cent to 98 per cent of silica with a small amount of lime as bond; hard, strong rock, having angular grains cemented by interstitial quartz, capable of resisting somewhat severe temperature changes without injury, and with the impurities well distributed in the intestices, is usually required." (Abstracts from a paper by W. W. Winship, as published in the "Oil, Paint and Drug Reporter").

May 9, 39. Salo.

Table 1 - PRODUCTION IN CANADA, IMPORTS AND EXPORTS	OF SAND AND	GRAVEL, 193	3 and 1934.
	Washed	Bank	
	or	or	TOTAL
	screened	pit-run	VALUE
	Tong	Tons	\$
3077	10110	20110	¥
$(x) \frac{1933}{1933}$			
PRODUCTION			
SAND -			
Moulding sand	3,444	4,273	9,635
Building sand and sand for concrete, roadwork,			
etc	347,410	428,002	218,559
Core sand another and another and another and another and	325	000	325
Other sand (including blast sands, engine sands.			
oto)	216	33.177	6,086
	10.00	009211	.,
SAND AND GRAVEL -			
Sand and gravel for railway ballast	72.338	489,200	110,449
Sand and gravel for concrete, road-building.etc.	6,367,489	3,590,343	3,907,911
Crushed gravel	359, 395	43.211	211.320
TOTAL	7,150,617	4.588.206	4.464.285
TMPORTS - 4		Mong	
Sand, silica, for glass and carborundum manu-	21.5	1013	£
facture atc		64.114	160,131
Sand and gravel n o n		89.017	72,480
Cilor on emetallized quanta ground or unground		4 370	82 823
Bilex of crystallized quartz, ground of unground		3,010	275 #24
			DT0,404
TRYDODMO			
EXPORTS -			
Sand and gravel	1	02,174	15,801
Sand and gravel	1	02,174	15,801
Sand and gravel	1	02,174	15,801
EXPORTS - Sand and gravel	1	02,174	15,801
$\frac{PRODUCTION}{SAND} (x) \frac{1934}{SAND}$	1	02,174	15,801
PRODUCTION (x) 1934 SAND -	1 05]	02,174	15,801
PRODUCTION (x) 1934 SAND - Moulding sand conductor production	1 1,951	02,174 11,278	15,801 13,415
EXPORTS - Sand and gravel PRODUCTION (x) <u>1934</u> SAND - Moulding sand Building sand and sand for concrete, roadwork,	1,951	02,174	15,801
EXPORTS - Sand and gravel PRODUCTION (x) <u>1934</u> SAND - Moulding sand Building sand and sand for concrete, roadwork, etc.	1,951 360,576	02,174 11,278 3,260,055	15,801 13,415 209,002
EXPORTS - Sand and gravel PRODUCTION (x) <u>1934</u> SAND - Moulding sand and sand for concrete, roadwork, etc. Core sand	1,951 360,576 405	02,174 11,278 3,260,055 3,030	15,801 13,415 209,002 2,345
EXPORTS - Sand and gravel PRODUCTION (x) <u>1934</u> SAND - Moulding sand and sand for concrete, roadwork, etc. Core sand Other sand (including blast sands, engine sands,	1,951 360,576 405	02,174 11,278 3,260,055 3,030	15,801 13,415 209,002 2,345
EXPORTS - Sand and gravel PRODUCTION (x) <u>1934</u> SAND - Moulding sand and sand for concrete, roadwork, etc. Core sand Other sand (including blast sands, engine sands, etc.)	1 1,951 360,576 405 2,072	02,174 11,278 3,260,055 3,030 44,012	15,801 13,415 209,002 2,345 10,046
EXPORTS - Sand and gravel PRODUCTION (*) SAND - Moulding sand and sand for concrete, roadwork, etc. Core sand Other sand (including blast sands, engine sands, etc.)	1 1,951 360,576 405 2,072	02,174 11,278 3,260,055 3,030 44,012	15,801 13,415 209,002 2,345 10,046
EXPORTS - Sand and gravel PRODUCTION (*) SAND - Moulding sand and sand for concrete, roadwork, etc. Core sand Other sand (including blast sands, engine sands, etc.) SAND AND GRAVEL - Sand and gravel for railway ballast	1,951 360,576 405 2,072 95,566	02,174 11,278 3,260,055 3,030 44,012 1,359,052	15,801 13,415 209,002 2,345 10,046 266,292
EXPORTS - Sand and gravel (x) <u>1934</u> PRODUCTION (-) <u>SAND</u> - Moulding sand and sand for concrete, roadwork, etc Core sand Other sand (including blast sands, engine sands, etc.) <u>SAND AND GRAVEL</u> - Sand and gravel for railway ballast	1,951 360,576 405 2,072 95,566 4 793 770	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7 694 638	15,801 13,415 209,002 2,345 10,046 266,292 3 411 751
EXPORTS - Sand and gravel (x) <u>1934</u> PRODUCTION (-) <u>SAND</u> - Moulding sand and sand for concrete, roadwork, etc Core sand Other sand (including blast sands, engine sands, etc.) <u>SAND AND GRAVEL</u> - <u>Sand and gravel for railway ballast</u> Sand and gravel for concrete, road-building, etc.	1,951 360,576 405 2,072 95,566 4,723,770 79,578	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751
EXPORTS - Sand and gravel (x) <u>1934</u> PRODUCTION (x) <u>SAND</u> - Moulding sand and sand for concrete, roadwork, etc. Core sand Other sand (including blast sands, engine sands, etc.) <u>SAND AND GRAVEL</u> - Sand and gravel for railway ballast Sand and gravel for concrete, road-building, etc. Crushed gravel	1,951 360,576 405 2,072 95,566 4,723,770 79,578	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,025,477
EXPORTS - Sand and gravel (x) <u>1934</u> PRODUCTION (x) <u>SAND -</u> Moulding sand Building sand and sand for concrete, roadwork, etc. Core sand Other sand (including blast sands, engine sands, etc.) <u>SAND AND CRAVEL -</u> Sand and gravel for railway ballast Sand and gravel for concrete, road-building, etc. Crushed gravel TOTAL	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477
EXPORTS - Sand and gravel	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 Tons	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477
EXPORTS - Sand and gravel PRODUCTION (*) SAND - Moulding sand Building sand and sand for concrete, roadwork, etc Core sand Other sand (including blast sands, engine sands, etc.) SAND AND GRAVEL - Sand and gravel for railway ballast Sand and gravel for concrete, road-building, etc. Crushed gravel TOTAL	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 Tons	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 §
EXPORTS - Sand and gravel (x) <u>1934</u> PRODUCTION(x) SAND - Moulding sand Building sand and sand for concrete, roadwork, etc Core sand Core sand Other sand (including blast sands, engine sands, etc.) SAND AND CRAVEL - Sand and gravel for railway ballast Sand and gravel for concrete, road-building, etc. Crushed gravel TOTAL	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 <u>Tons</u> 96,165	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 \$
EXPORTS - Sand and gravel	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 <u>Tons</u> 96,165	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 \$ 226,188 52000
EXPORTS - Sand and gravel	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 <u>Tons</u> 96,165 61,136	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 \$ 226,188 56,900
<pre>EAPORTS - Sand and gravel</pre>	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 <u>Tons</u> 96,165 61,136 2,323	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 \$ 226,188 56,900 53,430
EXPORTS - Sand and gravel	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 <u>Tons</u> 96,165 61,136 2,323	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 \$ 226,188 56,900 53,430 336,518
EXPORTS - Sand and gravel	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 <u>Tons</u> 96,165 61,136 2,323 	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 \$ 226,188 56,900 53,430 336,518
EXPORTS - Sand and gravel Sand (x) <u>1934</u> PRODUCTION SAND - Moulding sand Building sand and sand for concrete, roadwork, etc. Core sand (including blast sands, engine sands, etc.) Core sand (including blast sands, engine sands, etc.) Sand and gravel for railway ballast Sand and gravel for concrete, road-building, etc. Crushed gravel IMPORTS - Sand, silica, for glass and carborundum manu- facture, etc. Sand and gravel, n.o.p. Silex or crystallized quartz, ground or unground TOTAL	1,951 360,576 405 2,072 95,566 4,723,770 79,578 5,263,918	02,174 11,278 3,260,055 3,030 44,012 1,359,052 7,694,638 152,176 9,590,241 <u>Tons</u> 96,165 61,136 2,323 	15,801 13,415 209,002 2,345 10,046 266,292 3,411,751 122,626 4,035,477 \$ 226,188 56,900 53,430 336,518

(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.

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Year	Tons	\$	Year	Tons	\$
1925	11,018,647	3,220,410	1930	28,547,511	8, 344,913
1926	17,112,798	4,941,434	1931	21,748,586	6,651,165
1927	22,952,819	6,055,601	1932	14,469,942	4,480,5 9 6
1928	28,102,917	5,809,431	1933	11,738,823	4,464,285
1929	27,846,945	7,317,814	1934	14,854,159	4,035,477

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Table 2 - PRODUCTION(x) OF SAND AND GRAVEL IN CANADA, 1925 - 1934.

(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 OF SAND AND GRAVEL, BY PROVINCES, 1930 - 1934.

Province		1930	1931	1932	1933	1934	
Nova Scotia	Tons \$	525,68 3 3 10,407	403,858 198,757	423,487 136,677	282,228 126,031	256,572 114,597	R
New Brunswick	Tons \$	357,551 41,303	183,475 18,149	56 9 ,150 447,239	496,961 331,497	568,064 322,238	
Quebec	Tons \$	6,581,807 1,750,6 9 0	7,657,964 1,952,959	3,458,128 893,896	3,356,232 942,429	3,672,582 980,454	
Ontario	Tons	12,027,082 3,783,830	7,465,017 2,562,477	6, 994 ,447 1, 9 71,239	5,967,994 2,517,230	7,880,959 1,821,689	
Manitoba	Tons \$	1,253,103 453,944	871,986 294,178	440,309 188,974	288,214 108,828	334 ,026 9 5,426	
Saskatchewan	Tons \$	3,680,553 751,77 9	1,388,594 396,707	362,841 66, 94 2	104,400 19,731	533,575 169,033	
Alberta	Tons	1,626,989 433,221	1,050,988 313,616	734,067 250,025	281,122 85,577	650,232 196,898	
British Columbia	Tons \$	2, 49 4,743 819,739	2,726,704 914,322	1,487,513 525,604	961,672 332,962	958,149 335,142	

Table 4 - PRODUCTION OF SAND FOR BUILDING AND CONCRETE, ROADS, ETC., AND SAND AND GRAVEL FOR RAILWAY BALLAST AND FOR CONCRETE, ROADS, ETC., 1930 - 1934.

	S A N	D	5	BAND /	AND GRA	VEL
Alter	For buildin	g				
Year	concrete, ro	ads,	For raily	vay	For concre	ete, roads,
and the second	etc.		ballast		eta	2.5
	Tons	\$	Tons	\$	Lons	\$
1930	3,443,185	1,399,044	6,752,420	961,462	17,409,590	5,569,202
1931	3,189,248	1,069,210	3, 593, 451	459,531	14,352,283	4,784,298
1932	2,368,304	745,091	2,097,224	324,64F	9,604,113	3,181,105
1933	775,412	218,559	561,538	110,449	9,957,832	3,907,911
1934	686,631	209,002	1,454,518	266, 292	12,418,408	3,411,751

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Table 5 - PRINCIPAL STATISTICS OF THE SAND AND	GRAVEL INDU	STRY IN CANAD	A(x), 1952-1934.
	1932	1933	1934
Number of firms	686 9,542,446 92 1,651	696 6,203,113 61 2,665	7 94 4,377,551 60 <u>1,851</u>
Total Salaries and wages - Salaries	$ \begin{array}{r} 1,743 \\ 165,218 \\ 1,156,983 \\ 1,322,201 \\ 190,477 \\ \end{array} $	2,726 106,761 <u>1,062,318</u> <u>1,169,079</u> 129,410	<u>1,911</u> 75,745 <u>1,161,074</u> <u>1,236,819</u> 155,194
Selling value of sand and gravel produced by railway companies Selling value of sand and gravel produced by other operators	343,957 4,136,639	122,620 4, 34 1,665	269,280 3,766,197
Total selling value of sand and gravel produced	4,480,596	4,464,285	4,035,477

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

Table 6 - CAPITAL EMPLOYED, NUMBER OF EMPLOYEES, SALARIES AND WAGES PAID, AND FUEL AND ELECTRICITY CONSUMED, BY PROVINCES, 1934

			No. of	Salaries and	Cost of fuel	
Province	No.of	Capital	employ-	wages	and elec-	
	operators	employed	ees	paid	tricity used	
		\$		\$	\$	
Nova Scotia	5	(a)	1.70	101,443	(a)	
New Brunswick	, 6	(a)	266	207,202	(a)	
Quebec	332	270,270	929	536,291	14,743	
Ontario	398	2,490,782	233	200,586	122,221	
Manitoba	. 13	775,417	58	39,618	3,797	
Saskatchewan	。 5	(a)	100	62,364	(a)	
Alberta	, 10	1,100	78	35,564	(a)	
British Columbia	。 25	839,982	77	53,751	14,433	

(a) Complete data not available.

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Table 7 - AVERAGE NUMBER OF WAGE-EARNERS, BY MONTHS, 1932, 1933 and 1934,

Month	1932	1933	1934
January	310	112	122
February	306	1.08	122
March	301	131.	= 587
April	~71	203	596
May 3333300000330000000000000000	3,130	5,646	3,128
June	3,713	6,172	3,895
July	3,737	6,275	4,167
August and	3,816	6,381	4,219
September	3,388	3,087	2,418
October	715	762	940
November	500	586	400
December	329	363	316



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Table 8 - FUEL AND ELECTRICITY	USED, 1933	and 1934.				
	Unit of	1 9	3 3	1 9	3 4	
	measure	Quantity	Value	Quantity .	Value	
			\$		\$	
Anthracite coal	short ton	2	35		000	
Bituminous coal - Canadian	short ton	10,454	51,484	3,007	15,792	
Foreign	short ton	694	4,508	11,481	63,728	
Coke	short ton	9	88	4	35	
Gasoline (exclusive of motor						
vehicles)	Imp. gal.	81,157	17,923	64,933	12,832	
Kerosene	Imp. gal.	151	28	107	21	
Fuel oil	Imp, gal,	265,770	10,024	9 3 0	0 6 5	
Wood	cord	000	000	7	39	
Natural gas	M cu.ft.	98	39	50	30	
Other fuel	XXXX	0 0 0	907		909	
Flectricity purchased	K.W.H.	1.990.397	44.374	2,447,727	61,808	
	XXXX	303	129,410	000	155,194	_
Electricity generated for own						
	K.W.H.	150,000	000	150,000		
Table 9 - POWER EQUIPMENT INST.	ALLATION IN	1934.				-
			Number of	Units Hor	se power	
			10		0.4.4	
Steam engines and steam turbin	85		12		544	
Gasoline, gas and oil engines	(other)		52	1	.,308	
Hydraulic turbines or water who	eels		1		240	
Electric motors operated by put	rchased powe	r	199	t	5,912	
Electric motors operated by es	tablishments	power.	2		45	
Boilers		00000000	8		565	
			TIDICANDING	1000	12.4	
Table 10 - SILICA SAND CONSUME.	D IN SPECIFI	ED CANADIAN	INDUSTRIES,	1933 and 19	134 .	

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TADLE TO - DIDION DAND CONDOMED	TH OLDOTITION	Onimitant	THE DOW THEY THE &	ACCO MIN	20020	
		1	9 3 3	1 9	3 4	
Industry	Item	Tons	\$	Tons	\$	
Glass Industry	Silica sand	52,585	272,689	65,306	300,834	
Acids, Alkalies and Salts	Silica	5,800	21,714	12,945	55,330	
Artificial / rasives	Silice sand	13,574	68,186	29,991	150,869	
Products from Imported Clay	Flint	752	10,457	1,266	19,709	
Castings and Forgings	Moulding sand	22,920	93,975	(1)	
Primary Iron and Steel	Moulding sand	8,960	56,607	14,199	73,424	
Other iron and steel industries	Moulding sand	12,973	46,932	(1)	
Brass and copper Industry	Moulding sand	1,788	10,307	3,108	14,499	
Paints, Pigmen's and Varnishes.	Silica (a)	410	12,970	483	22,613	
Soaps and Cleaning Powders	Silica sand	3,272	67,930	4,831	72,371	

(a) Includes any silex or infusorial earth used.(b) Data not yet complete for 1934.