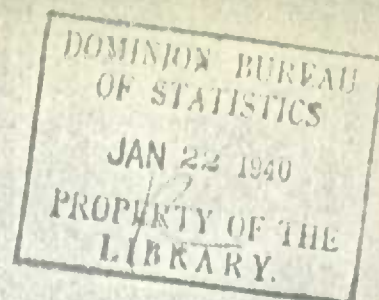


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CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY
MINING, METALLURGICAL & CHEMICAL BRANCH

THE
FELDSPAR & QUARTZ MINING INDUSTRY
IN
CANADA
1938

(including data relating to Nepheline-Syenite)



OTTAWA
1940

Price 25 cents

DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL BRANCH
OTTAWA - CANADA

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THE FELDSPAR AND QUARTZ MINING INDUSTRY, 1938.

Owing to the very close physical association of these minerals in many Canadian deposits (pegmatites), it has been found difficult for some operators to make a separation of all data pertaining to the mining of each individual mineral and, for this reason, the general statistics relating to capital, employment, fuel and electricity, etc., have been combined in this bulletin by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics at Ottawa. Since 1936 corresponding statistics relating to the production of nepheline-syenite have been included with those pertaining to the commercial production of feldspar and quartz.

During 1938 the gross value of production by the industry and including the value of feldspar, quartz and nepheline-syenite sold totalled \$1,235,647 compared with corresponding values of \$1,428,714 in 1937 and \$789,682 in 1936. In 1938 commercial shipments of feldspar were made only from properties located in Ontario, Manitoba and Quebec; quartz in various forms was produced in Nova Scotia, Quebec, Ontario and Saskatchewan while production of nepheline-syenite was confined to the province of Ontario.

The number of firms reported as active in the industry in 1938 totalled 32, capital employed was recorded at \$1,605,136, employees numbered 375, salaries and wages paid amounted to \$342,248 and the value of fuel, electricity and process supplies consumed totalled \$168,509. The net value of all products sold was estimated at \$1,065,138 compared with \$1,242,244 in 1937.

FELDSPAR

Production of feldspar in Canada during 1938 totalled 14,058 short tons valued at \$129,293 compared with 21,346 short tons at \$178,222 in 1937. Of the 1938 output 5,874 tons valued at \$62,878 were mined in the Province of Quebec, 8,106 tons at \$65,964 in Ontario and 78 tons worth \$451 in Manitoba.

During the year under review commercial mine shipments of crude feldspar were made in Quebec from 15 properties located in Derry and Buckingham townships, Papineau county and in Ontario from Bathurst township, Lanark county, Murchison township, Renfrew county and Sabine township, district of Nipissing. The relatively small production recorded for Manitoba in 1938 came from Pointe du Bois in the Lac du Bonnet district of Eastern Manitoba.

In 1938 feldspar was ground, for industrial consumption, in mills located at Kingston, Ontario and Buckingham, Quebec.

The Bureau of Mines, Ottawa, reports that pegmatite dykes, the main source of commercial feldspar are distributed widely throughout the Precambrian rocks of

eastern and northern Canada, and the potential reserves of the mineral are very great. Development possibilities, however, in view of the comparatively low unit value of the mineral, hinge upon the two important factors of run-of-mine freedom from iron-bearing impurities and cost of transportation to grinding plant. As indicating present consumption trends, an official survey of the feldspar industry in the United States showed that sales by percentages of ground feldspar by merchant mills in 1938 were as follows: for manufacturing glass, 54.9; pottery, 34.5; enamel and sanitary ware 9.0; other ceramic uses 1.0 and soaps, abrasives, binders and various, 0.6 per cent.

The U. S. Bureau of Mines reported that 196,119 long tons of crude feldspar worth \$895,081 were sold or used in the United States in 1938; owing to the relatively low value and greater output of western spar, the average sales realization in 1938, for the country as a whole, dropped to \$4.56 per long ton, the lowest figure since 1917. Sales of ground feldspar in the United States from 30 merchant mills declined in 1938 to 214,514 short tons worth \$2,466,252. Three mills grinding imported Canadian spar in 1938 produced about 4 per cent of the total quantity of ground feldspar sold.

TARIFF REVISIONS

Trade agreements between Canada and the United States and between the United Kingdom and the United States were signed at Washington on Thursday, November 17, 1938. The following statement prepared by the United States Tariff Commission shows the former and new rates of duty on feldspar and nepheline-syenite in schedule II (United States concessions to Canada), and the total imports of such products into the United States and the imports from Canada according to preliminary United States statistics for the year 1937: Crude feldspar; duty under the tariff act of 1930, 50 cents per ton; under the 1935 agreement 35 cents per ton and under the new agreement 25 cents per ton; imports of crude feldspar, into the United States in 1937 were valued at \$91,885, all from Canada. Ground feldspar: duty under 1930 tariff and 1935 agreement 30 per cent; under new agreement 15 per cent. No imports of ground feldspar into the United States are recorded for 1937. Ground nepheline-syenite duties same as recorded for ground feldspar; data relating to imports in 1937 not available. Crude nepheline-syenite is placed on the free list but in the event imports of crude and ground nepheline-syenite together exceed 50,000 tons per annum, the two governments shall consult regarding action to be taken. If consultation results in no agreement, the United States Government shall be free to impose a duty.

Imports of ground feldspar into Canada during 1938 totalled 615 short tons valued at \$10,083; crude feldspar imported during the same period amounted to 42 short tons worth \$367; imports of both grades in 1938 came entirely from the United States. Exports of feldspar, only, were not shown separately in trade reports for the entire calendar year 1938; exports of feldspar and nepheline-syenite to March 31st totalled 4,998 short tons valued at \$34,244 while exports of feldspar, only, from April 1st to the end of 1938 totalled 6,455 tons at \$44,531.

Table 1 - PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF FELDSPAR 1937 and 1938.

	1937		1938	
	Quantity	Value	Quantity	Value
	Tons	\$	Tons	\$
PRODUCTION (SALES) -				
Quebec	12,285	105,612	5,874	62,878
Ontario	9,061	72,610	8,106	65,964
Manitoba .....	...	...	78	451
TOTAL	21,346	178,222	14,058	129,293
IMPORTS OF FELDSPAR -				
Crude only	439	2,197	42	367
Ground (a)	1,356	22,937	615	10,083
EXPORTS OF FELDSPAR -				
TOTAL (A)	27,462(d)	197,000	4,998	34,244
To - United Kingdom	30	625	...	4
United States	27,335	193,472	4,998	34,240
FELDSPAR ONLY (b) - Total .....	...	...	6,344	44,531
To - United Kingdom .....	...	...	3	90
United States .....	...	...	6,358	41,841
NEPHELINE-SYENITE (c) .....	...	...	22,787	94,877

(a) Not further manufactured than ground; all from United States.

(A) Feldspar and nepheline-syenite to March 31, 1938. (b) From April 1, 1938.

(c) From April 1, 1938; all to United States. (d) Includes nepheline-syenite.

Table 2. - PRODUCTION OF FELDSPAR IN CANADA, JANUARY 1 to JUNE 30, 1938 and 1939.

	1938		1939	
	Quantity	Value	Quantity	Value
	Tons	\$	Tons	\$
PRODUCTION (SALES) -				
Quebec	1,687	22,419	1,753	22,214
Ontario	3,883	29,741	2,724	20,502
Manitoba	78	78	...	...
TOTAL	5,648	52,238	4,477	42,716

Table 3. - PRODUCTION OF FELDSPAR IN CANADA, BY PROVINCES, 1929-1938 and 1913-1919.

	QUEBEC		ONTARIO		MANITOBA		Average value per ton
	Tons	\$	Tons	\$	Tons	\$	
1929	15,790	133,492	21,737	206,979	...	...	\$ 9.07
1930	17,074	163,802	9,722	104,667	...	...	10.02
1931	10,381	86,842	7,962	100,119	...	...	10.19
1932	3,390	39,062	3,657	42,920	...	...	11.63
1933	6,183	59,283	4,387	45,350	88	484	9.86
1934	9,207	78,853	7,302	61,665	1,793	6,763	8.05
1935	7,002	63,075	8,656	75,003	2,084	6,252	8.13
1936	8,115	75,703	8,409	70,840	1,322	7,932	8.66
1937	12,285	105,612	9,061	72,610	...	...	8.35
1938	5,874	62,878	8,106	65,964	78	451	9.22
1913	74	1,554	16,716	59,241	...	...	3.62
1914	98	2,156	17,962	68,668	...	...	3.92
1915	572	2,005	13,987	55,796	...	...	3.97
1916	4,610	18,075	14,878	53,332	...	...	3.66
1917	1,188	8,204	18,274	81,622	...	...	4.62
1918	191	4,279	18,591	108,449	...	...	6.00
1919	925	13,073	13,754	73,158	...	...	5.87

Table 4. - EXPORTS OF FELDSPAR FROM CANADA, 1913 - 1920.

Year	Short tons	\$	Average
			\$
1913	15,966	62,767	3.93
1914	18,072	74,100	4.10
1915	(a)	(a)	...
1916	(a)	(a)	...
1917	(a)	69,195	...
1918 .....	...	101,187	...
1919 .....	...	104,285	...
1920	38,768	219,744	5.67

(a) Not separately shown 1915 to April, 1917. Imports of feldspar in 1920 totalled 1,991 short tons valued at \$44,390, corresponding data for 1913-1919 not recorded.

In 1916 the principal Canadian shippers of feldspar were:- Feldspar Limited, Hartington, Ontario; Feldspar Quarries Company, Verona, Ontario; S. H. Orser and Company of Perth, Ontario; The International Feldspar Co., Ltd., Verona and Ottawa, Ontario, and the Eureka Flint and Spar Company, East Templeton, Quebec. Shipments were also made by Messrs. O'Brien & Fowler, Ottawa, from the Villeneuve Mine, Labelle County, Quebec.

Table 5. - CONSUMPTION OF FELDSPAR IN CANADA, BY SPECIFIED INDUSTRIES, 1930 - 1938.

Year	Abrasive Products Industry		Imported clay Products Industry		TOTAL - ALL NON-METALLIC MANUFACTURES INDUSTRIES (x)	
	Tons	\$	Tons	\$	Tons	\$
1930	19	370	2,254	51,211	6,406	129,316
1931	8	190	1,885	34,394	5,405	93,175
1932	6	173	1,406	28,043	5,093	89,818
1933	6	115	861	16,297	5,762	98,393
1934	25	688	1,488	30,577	9,738	130,842
1935	34	939	1,135	21,977	5,097	84,878
1936	36	999	1,572	28,521	5,730	105,121
1937	53	1,506	2,428	46,028	5,408	100,063
1938	41	1,129	1,890	35,979	(a)	(a)

(x) Includes feldspar consumed in the manufacture of glass.

(a) Not yet complete. Feldspar used in Canada in 1938 in the manufacture of glass totalled 1,343 tons valued at \$20,788.

Table 6. - FELDSPAR USED IN THE MANUFACTURE OF CANADIAN SOAPS AND CLEANING PREPARATIONS, 1930-1938.

Year	Tons	\$	Year	Tons	\$
1930	1,000	29,904	1935	1,257	12,817
1931	1,001	37,460	1936	939	10,221
1932	956	26,647	1937	1,119	13,329
1933	989	13,293	1938	(a)	(a)
1934	1,091	13,420			

(a) Not yet complete.

Table 7. - FELDSPAR CONSUMED IN THE MANUFACTURE OF CANADIAN IRON AND STEEL PRODUCTS, 1931 - 1938.

Year	Tons	\$	Year	Tons	\$
1931	(a)	3,386	1935	662	11,554.
1932	(a)	2,799	1936	369	6,503
1933	147	2,969	1937(b)	441	7,385
1934	300	5,496	1938	(c)	(c)

(a) Quantity statistics not available.

(b) Subject to revision .

(c) Not yet complete.

FELDSPAR PRICES (October, 1939) -

UNITED STATES - Per ton, f.o.b. North Carolina, potash feldspar, 200 mesh, white, \$17 in bulk; soda feldspar, \$19. F.O.B. Maine, potash feldspar, white, 200 mesh, \$17, in bulk. Granular glass spar, white, 20 mesh, F.O.B. North Carolina, \$12.50 in bulk; semi-granular, \$11.75; soda feldspar, 200 mesh, white, \$19. Virginia: No. 1, 230 mesh, \$18; 200 mesh, \$17; No. 17 glassmakers', \$11.75; No. 18, \$12.50. Enamelers, \$14 to \$16. Quotations on Spruce Pine, N.C., or Keene, N.H., basis. (Engineering and Mining Journal's "Metal and Mineral Markets" - New York).

"Canadian Chemistry and Process Industries", Toronto, published feldspar quotations September, 1939, as follows:- Feldspar, pottery, ground, 200 mesh, F.O.B. mill, carlots, ton - \$17.00; feldspar rock, F.O.B. mill, carlots, ton, \$5 to \$7.

Table 8. - WORLD PRODUCTION OF FELDSPAR, 1935 - 1937. (Long tons).
(Supplied by Imperial Institute)

Producing Country	1935	1936	1937
<u>BRITISH EMPIRE</u>			
United Kingdom -			
China stone	57,160	66,509	60,715
Canada (sales)	15,841	15,934	19,059
India	702	785	487
Australia (including china stone) .	4,711	3,691	3,806
<u>FOREIGN COUNTRIES</u>			
Czechoslovakia (estimated)	30,000	30,000	30,000
Finland (exports)	2,038	2,480	3,181
Germany (Bavaria only)	5,860	7,864	9,828
Italy	7,496	8,484	(a)
Norway	16,697	24,792	23,859
Roumania (b)	11,344	(a)	(a)
Sweden	47,869	55,902	48,364
U.S.S.R.	23,844	(a)	(a)
Egypt	71	44	156
United States (sales)	189,550	244,726	268,532
Argentina	487	1,065	(a)

Feldspar is also produced in China and "Manchoukuo".

(a) Information not available. (b) Converted from cubic metres at the rate of 1 cubic metre = 2 long tons.

The U.S. Bureau of mines reported Norwegian exports of feldspar in 1938 at 21,761 metric tons.

NEPHELINE-SYENITE

Production of nepheline-syenite in Canada during 1938 was valued at \$142,737 compared with \$121,481 in the preceding year. The output in both years came from properties located in eastern Ontario.

The following information relating to nepheline-syenite is abstracted from report No. 791 issued by the Bureau of Mines, Ottawa:- "Nepheline-syenite is an igneous rock consisting of a mixture of the feldspathoid mineral nepheline (or nephelite), a silicate of alumina and soda, and varying amounts of soda and potash feldspars. It is used in the ceramic trade (at present mainly in the glass industry) as a substitute for straight feldspar.

"Interest in the material as an industrial mineral or rock is of recent date, the first production being in 1936, when Canadian Nepheline Ltd., opened a quarry at Blue Mountain in Methuen township, Peterborough county, about 27 miles northeast of Lakefield, and erected a mill at Lakefield to crush and process the rock for market."

Production of nepheline-syenite in Ontario during 1938 came from the Bancroft mine, Bancroft, Hastings county; Methuen township, Peterborough county and Gooderham, in Glamorgan township.

The U. S. Bureau of Mines reported that three mills in the United States were processing nepheline-syenite in 1938 for use in glass manufacture. Two of them-- the American Nepheline Corporation, Rochester, N.Y., a subsidiary of Canadian Nepheline, Ltd., and the New England Nepheline Co., Keene, N.H., affiliated with Golding-Keene Co. -- were in operation in 1937. The Oxford Mining and Milling Co., West Paris, Maine, a subsidiary of the United Feldspar Corporation, began grinding Nepheline later. Crude rock for these mills is imported from Canada. It has been stated recently that, in wall tile and floor tile, the greater refractoriness of certain American clays is offset by additions of nepheline-syenite, owing to its active fluxing action and that nepheline permits the making of satisfactory floor-tile bodies at lower temperatures.

Table 9. - PRODUCTION OF NEPHELINE-SYENITE IN CANADA¹, 1936 - 1938.

Year	Quantities	Value
		\$
1936	(a)	37,426(b)
1937	(a)	121,481
1938	(a)	142,737

¹ Produced in Ontario only. (a) Quantity not published.

(b) First commercial production in Canada.

During the first six months of 1939 the Canadian production of nepheline-syenite was valued at \$68,857 compared with \$73,318 in the corresponding period of 1938.

Nepheline-syenite used in Canada during 1938 in the manufacture of glass totalled 2,538 tons, valued at \$41,678.

QUARTZ (SILICA)

The production of natural silica or quartz in Canada during 1938 totalled 1,380,011 short tons valued at \$961,617 compared with 1,377,448 tons at \$1,129,011 in 1937. Output of primary silica products by the Canadian Quartz Mining industry includes crude and crushed dyke quartz, quartzite, sandstone and natural silica sands and gravels. The mineral in one or more of the forms thus defined was produced during 1938 in Nova Scotia, Quebec, Ontario and Saskatchewan. Shipments of silica in Nova Scotia were made to steel plants largely for the making of silica brick. In Quebec high grade silica sands were produced for the manufacture of glass and chemicals while a considerable tonnage of these same sands was sold for sandblasting and various other purposes; in the same province relatively large quantities of crushed quartzite or sandstone were mined and milled for the manufacture of silicon carbide and other products. The greater part of the tonnage of silica shipped in Ontario during 1938 represented material intended for use in the production of silica brick and ferro-silicon and for the fluxing of nickel-copper ores. Quartz production as recorded for Saskatchewan represented natural silica sands or gravels shipped as flux to the Flin Flon Smelter of the Hudson Bay Mining and Smelting Co. Ltd.

The price per ton of the several grades of silica varies greatly depending on its purity and on the purpose for which it is to be used. Silica, on the whole, is a comparatively low-priced commodity, and therefore the location of a deposit with respect to markets is of great importance. According to a report issued by the Bureau of Mines, Ottawa, the larger markets for silica are in the provinces of Quebec and Ontario, and any new deposits being opened up should be within economic reach of either Montreal or Toronto.

Imports into Canada during 1938 of silex or crystallized quartz, ground or unground totalled 3,069 short tons valued at \$77,815; imports of silica sand for glass, carborundum and steel and filtration plants, etc., in the same year, amounted to 172,073 short tons worth \$338,832.

Table 10. - PRODUCTION IN CANADA AND IMPORTS OF QUARTZ AND SILICA PRODUCTS, 1937 and 1938.

	1 9 3 7		1 9 3 8	
	Short Tons	Value	Short Tons	Value
		\$		\$
PRODUCTION (x) (SHIPMENTS) -				
Nova Scotia	11,732	14,078	4,701	8,415
Quebec	127,535	448,327	85,153	315,251
Ontario	1,142,372	633,073	1,173,259	597,037
Manitoba				
Saskatchewan	95,809	33,533	116,898	40,914
British Columbia				
CANADA	1,377,448	1,129,011	1,380,011	961,617
IMPORTS -				
Ganister	2,405	5,980	360	2,888
Flint and ground flint stones ...	1,811	38,616	1,005	16,946
Silex or crystallized quartz, ground or unground	4,276	103,940	3,069	77,815
Silica sand for glass, carborundum and steel and filtration plants and sand blasting (a)	212,840	373,760	172,073	338,832
Silica fire brick, 90% / silica		539,253		240,184

(x) Includes both crude and crushed quartz and quartzite, silica flux and natural silica sands. See footnote to Table 11. (a) 164,601 tons from the United States and 7,427 tons from Belgium in 1938 and 212,386 tons from the United States, 222 tons from Belgium and 232 tons from the United Kingdom in 1937.

Table 11. - PRODUCTION (x) (USE) OF NATURAL LOW GRADE SILICA SAND AND SILICA GRAVEL AS NON-FERROUS SMELTER FLUX, 1936, 1937 AND 1938.

	1 9 3 6		1 9 3 7		1 9 3 8	
	Tons	\$	Tons	\$	Tons	\$
Ontario	814,634	90,925	980,427	343,149	990,020	349,657
Saskatchewan ..	76,089	49,458	95,809	33,533	116,898	40,914
CANADA TOTAL	890,723	140,383	1,076,236	376,682	1,106,918	390,571

(x) Included in totals shown in Tables 10 and 12; also complete data for production of this material in Ontario during previous years are not available.

Table 12. - PRODUCTION OF QUARTZ (SILICA) IN CANADA, 1926 - 1938.

Year	Ton	\$	Year	Ton	\$
1926	232,082	553,161	1933	185,783	297,820
1927	233,984	496,346	1934	272,563	482,265
1928	282,522	523,933	1935	233,002	424,882
1929	265,949	561,527	1936 (x) ..	1,046,649	597,781
1930	226,200	418,127	1937 (x) ...	1,377,448	1,129,011
1931	195,724	303,158	1938 (x) ..	1,380,011	961,617
1932	189,132	276,147			

(x) See footnote to Table 10.

Table 13. - PRODUCTION OF QUARTZ (SILICA) IN CANADA, 1913 - 1920.

Year	Tons	\$	Year	Tons	\$
1913	78,261	169,842	1917	216,288	496,182
1914	54,148	84,583	1918	268,155	629,813
1915	127,108	205,153	1919	94,991	527,635
1916	136,745	251,226	1920	128,295	467,821

The statistics of quartz or silica as given in Table 14 include chiefly the quartz or quartzite used in the smelting of nickel and copper ores in the manufacture of ferro-silicon, and in the manufacture of sanitary ware or earthenware.

In 1916 it was stated that included with the annual statistics of quartz was a small production of grinding pebbles obtained from near Jackfish, Ontario, on the north shore of Lake Superior, by the Canada Pebble Co., Ltd. These pebbles were used chiefly in the cement industry. It was also reported that considerable deposits of rounded quartzite pebbles, suitable for grinding purposes, were found on the Cypress Hills, south of Maple Creek, Southern Saskatchewan. During 1920 the production of grinding pebbles from the Jackfish deposits amounted to 560 tons; in 1925 the total was 105 tons and in 1926 only 64 tons. The Hedley Gold Mining Co. used pebbles obtained from Hedley, Similkameen district, British Columbia, in 1922. No production of grinding pebbles has been reported in Canada during recent years.

Table 14. - IMPORTS OF SILEX (GROUND QUARTZ) AND FLINT, 1913 - 1920.

Year	S I L E X		F L I N T	
	Tons	\$	Tons	\$
1913	690	13,811	6,708	60,718
1914	870	15,302	3,835	47,931
1915	402	5,527	4,327	48,966
1916	1,677	18,297	5,348	71,983
1917	851	12,812	3,774	64,292
1918	607	12,054	5,749	109,825
1919	641	13,825	5,411	100,902
1920	1,154	26,097	9,047	170,355

Table 15. - PRODUCTION OF SILICA BRICK IN CANADA, 1929 - 1938.

Year	M	Value		Year	M	Value	
		\$	\$			\$	\$
1929	3,951	173,581		1934	2,528	85,945	
1930	2,418	97,379		1935	2,461	96,194	
1931	900	35,746		1936	2,393	97,285	
1932	93	4,304		1937	3,744	181,126	
1933	636	23,185		1938	1,788	100,403	

Table 16. - PRODUCTION OF QUARTZ (SILICA) IN CANADA, BY PROVINCES, JANUARY 1 to JUNE 30, 1938 and 1939.

Province	1 9 3 8		1 9 3 9	
	Tons	\$	Tons	\$
Nova Scotia	396	709	1,698	3,038
Quebec	46,540	165,801	43,104	155,235
Ontario (x)	609,391	235,604	647,615	275,173
Manitoba .....	...	...	...	...
Saskatchewan (x)	53,927	18,874	64,162	22,457
British Columbia .....	...	...	...	...
CANADA	710,254	420,988	756,579	455,903

(x) See footnote to Table 10.

PRICES -

UNITED STATES (OCTOBER, 1939). - Silica, per ton, water ground and floated, in bags, f.o.b. Illinois: 325 mesh, \$21 to \$40 for 92 to 99½ per cent grades. Dry ground, air floated, 325 mesh, 92 to 99½ per cent silica, \$20 to \$30. Glass sand, f.o.b. producing plant, \$1.25 to \$5 per ton; molding sand, 50 cents to \$3.50; blast sand, \$1.75 to \$6. California: \$5 for quartz and \$2.50 for sand. Quartz rock crystals for fusing, all sizes, \$100 per ton; prisms for piezo-electrical and optical use command premium. (Engineering and Mining Journal's "Metal and Mineral Markets" - New York).

"Canadian Chemistry and Process Industries" - Toronto - quotations (September, 1939) - silica sand, various grades, carlots, ton \$8 to \$9. Silica quartz 99 per cent, 110-220 grade, carlots - to \$15 per ton. The price for the lower grades of crude quartz varies greatly according to purity and purpose of use.

Table 17. - CONSUMPTION OF QUARTZ, SILICA SAND, ETC., IN CANADA, BY INDUSTRIES, ACCORDING TO CENSUS OF INDUSTRY REPORTS, 1937 and 1938.

Industry	1937		1938	
	Quantity	Cost at	Quantity	Cost at
	Short tons	works \$	Short tons	works \$
Silica Sand and Silica (including ground quartz)-				
Soaps and cleaning preparations	4,685	76,378	(a)	(a)
Acids and salts	11,659	54,769	11,453	49,391
Paints	836	21,306	(a)	(a)
Refractories	35	256	(a)	(a)
Roofing paper	1,976	11,657	1,050	5,132
Abrasives	45,240	211,899	32,746	159,284
Glass	82,267	382,728	77,499	363,233
Enameling materials	493	3,971	(a)	(a)
Products from imported clays ..	3,032	44,648	2,576	38,441
Foundry facings and supplies ..	48	430	(a)	(a)
Non-ferrous smelters(A)	1,076,236	376,682	1,106,918	390,671
Steel foundries	37,015	207,510	36,123	194,426
TOTAL ACCOUNTED FOR	1,263,522	1,392,234	...	...
Quartz and Quartzite -				
Acids and Salts	1,537	3,632	1,421	3,201
Ferro-alloys	35,633	80,201	(a)	(a)
TOTAL ACCOUNTED FOR	37,170	83,833	...	...

NOTE - Consumption values are costs at works.

(A) The quantities reported under this industry represent low grade natural silicious sands used for fluxing purposes. In addition to the quantities shown for 1938 a relatively large quantity of quartz and quartzite is consumed in the manufacture of silica brick. (a) Data not yet complete for 1938.

Table 18. - PRINCIPAL STATISTICS OF THE FELDSPAR AND QUARTZ MINING INDUSTRY, 1937 and 1938.

	ONTARIO(x)(b)		QUEBEC	
	1938	1937	1938	1937
Number of firms (a)	15	18	17	21
Capital employed	\$ 585,102	485,663	1,020,034	867,329
Number of employees - On salary	25	25	24	25
On wages	142	160	184	235
Total	167	185	208	260
Salaries and wages - Salaries	\$ 30,133	30,697	35,675	38,163
Wages	\$ 140,959	151,297	135,481	164,541
Total	\$ 171,092	181,994	171,156	202,704
Selling value of products (gross)	\$ 855,518	874,775	378,129	553,939
Cost of fuel and purchased electricity \$	30,360	29,092	45,290	53,519
Cost of process supplies	\$ 68,774	75,130	24,085	28,729
Net value of sales	\$ 756,384	770,553	308,754	471,691

(x) In 1938 includes 1 firm operating in Nova Scotia, Manitoba and Saskatchewan (a total of 3). In 1937 includes 1 firm in Nova Scotia and 1 in Saskatchewan.

(a) Small shippers from whom reports were unobtainable and whose production is recorded from consumers returns are sometimes not included in the total.

(b) Includes data relating to production of nepheline-syenite.

Table 19. - NUMBER OF WAGE-EARNERS ON PAY ROLL, BY MONTHS, 1935 - 1938.

Month	1935	1936	1937	1 9 3 8		
				Quebec	Ontario	CANADA
January	180	188	278	202	.77	279
February	168	186	282	192	100	292
March	161	192	289	180	100	280
April	147	199	338	159	112	271
May	239	254	345	195	167	362
June	266	321	416	202	165	382
July	313	354	461	211	184	413
August	329	364	455	236	175	429
September	254	407	490	186	164	368
October	261	383	484	156	162	318
November	233	331	474	157	142	299
December	195	303	367	134	88	222

Table 20. - WAGE-EARNERS WORKING THE HOURS SPECIFIED DURING ONE WEEK IN MONTH OF NORMAL EMPLOYMENT, 1938.

Hours	Number	Hours	Number
30 or less	10	49 - 50	14
31 - 43	21	51 - 54	50
44	13	55	4
45 - 47	12	56 - 64	109
48	141	65 and over	18
Grand Total Employees in week specified			392
Total wages paid in week specified			\$7,554

Table 21. - FUEL AND ELECTRICITY USED, 1937 and 1938.(b)

Kind	Unit of measure	1 9 3 7				1 9 3 8			
		Canada		Ontario		Quebec			
		Quantity		Quantity		Quantity			
		Cost at works		Cost at works		Cost at works			
			\$	(a)	\$		\$		\$
Bituminous coal -									
Canadian	short ton	1,186	8,009	3	16	898	6,295		
Foreign	short ton	3,785	23,248	3,589	22,313	267	2,104		
Anthracite coal -									
United States .	short ton	...	...	...	...	...	...
Other	short ton	2	30	...	...	10	192		
Coke	short ton	9	120	...	...	2	31		
Gasoline	Imp. gal.	66,145	14,007	17,161	3,732	19,173	4,033		
Kerosene	Imp. gal.	987	191	664	131	...	...
Fuel oil	Imp. gal.	226,786	20,045	12,180	1,460	209,171	18,497		
Wood	cord (A)	380	1,192	220	706	171	694		
Electricity purchased	K.W.H.	1,260,653	15,769	277,296	2,002	902,270	13,444		
TOTAL .....	\$	...	82,611	...	30,360	...	45,290		
Electricity generated for own use	K.W.H.	1,376,313	...	50,961	...	1,124,852	...		

(A) 128 cubic feet. (a) Includes data for 1 property in Nova Scotia and 1 in Manitoba. (b) Data relating to production of silica flux by smelting companies are included with those of the non-ferrous smelting and refining industry.

Table 22. - POWER EQUIPMENT INSTALLATION, 1938.

Description	QUEBEC		ONTARIO (a)	
	Number	Horse Power	Number	Horse Power
<u>Ordinarily in Use</u>				
Steam engines and steam turbines	2	44	6	528
Diesel engines	3	765	3	192
Other internal combustion engines	8	372	7	568
Electric motors operated by purchased power	27	673	28	322
Electric motors operated by establishment power.	89	788	2	3
Boilers	4	215	32	835
<u>In reserve or idle</u>				
Steam engines and steam turbines .....	...	...	1	25
Diesel engines .....	...	...	...	...
Other internal combustion engines	4	86	...	...
Electric motors operated by purchased power ....	...	...	...	...
Electric motors operated by establishment power.	...	...	...	...
Boilers .....	...	...	1	25

(a) Includes 1 property in Nova Scotia.

LIST OF FIRMS IN THE CANADIAN FELDSPAR AND QUARTZ MINING INDUSTRY, 1938.

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Location of mine or mill</u>
<u>NOVA SCOTIA -</u>		
Nairn, J. S. (a)	Sydney (24 Whitney Ave.)	Leitches Creek
<u>QUEBEC -</u>		
Berthel, J. O.	Buckingham	Buckingham Dist.
Bigelow, Gordon	Glen Almond	Derry Twp.
Cameron, J.	Buckingham	Buckingham Dist.
Canadian Carborundum Co. Ltd.		
(a) (b)	Box 65, Niagara Falls, Ont.	St. Canut
Canadian Flint & Spar Co. Ltd.(b)	Box 340, Buckingham	Derry Twp.
Canadian Kaolin Silica Products Ltd. (a) (b)	1007 Canada Cement Bldg., Montreal	St. Remi
Degagné, J.	Buckingham	d'Amherst
Degagné, O.	Buckingham	Buckingham Dist.
Evans, W..H.	Box 386, Buckingham	Buckingham Dist.
Gordon, Alfred (a)	Brigham	Buckingham Dist.
Hill, Nelson (a)	Glen Almond, Que.	Brome Co.
Labre, G.	Buckingham	Buckingham Twp.
Larmache, J. Hermes	Mount Laurier	Buckingham Dist.
McDonnell, B. A.	Buckingham	Labelle Co.
Montpetit Euclyd (a) (b)	Melocheville	Derry Twp.
Merbonne, Léo.	Buckingham	Beauharnois
Ottawa Silica & Sandstone Ltd.		Buckingham Dist.
(a) (b)	East Templeton, Que.	
Parcher, Alfred (✓)	Glen Almond	East Templeton
Pedneaud, Louis	Buckingham	Derry Twp.
Perkins Mining Co.	Gatineau Pointe, Que.	Glen Almond
St. Amour, Orphila	Notre Dame de la Salette	Derry Twp.
Parcher, Margie (✓)	Glen Almond	Papineau Co.
		Derry Twp.

LIST OF FIRMS IN THE CANADIAN FELDSPAR AND QUARTZ MINING INDUSTRY, 1938.

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Location of mine or mill</u>
<u>QUEBEC (Concl.) -</u>		
Standard Lime Co..Ltd. (a)	Joliette	-
Wallingford G. E.	63 Pinehurst Ave., Ottawa	Derry Twp.
Wallingford, J. N.	Perkins	Buckingham Twp.
<u>ONTARIO -</u>		
Bathurst Feldspar Mines Ltd.	508 - 21 King St. E., Toronto	Bathurst Twp.
Cameron, Wallace B.	Madawaska	Murchison Twp.
Craig, T. H.	Perth	Bathurst Twp.
Dominion Mines & Quarries Ltd.		
(a) (b)	340 University Ave., Toronto	Killarney
Frontenac Floor & Wall Tile Co.		
Ltd. (b)	Kingston	Kingston
Prince and Prince	Princes Lake	Sabine Twp.
Wright and Co. (a)	960 Queen St., Sault Ste. Marie	Algoma Central R.R.
<u>MANITOBA</u>		
Winnipeg River Tin Mines Ltd.	1139 McDermot Ave., Winnipeg	Pointe du Bois

- (a) Reported shipments of silica only.
 (b) Operates a mill.
 (✓) Active but not producing.

NOTE - In addition to the firms listed, there are Canadian metallurgical companies producing low grade silica sand for their own use.

PRODUCERS OF NEPHELINE-SYENITE, 1938.

ONTARIO

Canadian Nepheline Ltd. (a)	714 Canada Permanent Bldg., Toronto, Ontario	Lakefield, Ont.
Gooderham Nepheline	24 Dickson St., Galt	Glamorgan Twp.
New England Co. Inc.	29 Ralston St., Keene, New Hampshire, U.S.A.	Bancroft

- (a) Operates a mill in Canada.

Perkins Mining Co.
 St. Amour, Orphila
 Purcher, Maggie (✓)

oOo
 Notre Dame de la Paroisse
 Glen Almond

Derry Twp.

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