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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 1939

(including data relating to Nepheline-Syenite)

OTTAWA
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THE FELDSPAR AND QUARTZ MINING INDUSTRY, 1939

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 1939 the gross value of production by the industry and including the value of feldspar, quartz and nepheline-syenite sold totalled $1,352,671 compared with corresponding values of $1,233,647 in 1938 and $1,428,714 in 1937. In 1939 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 1939 totalled 43, capital employed was recorded at $1,591,015, employees numbered 338, salaries and wages paid amounted to $330,170 and the value of fuel, electricity and process supplies consumed totalled $178,721. The net value of all products sold was estimated at $1,173,950 compared with $1,065,138 in 1938.

FELDSPAR

Production of feldspar in Canada during 1939 totalled 12,500 short tons valued at $112,309 compared with 14,058 short tons at $129,293 in 1938. Of the 1939 output 5,399 tons valued at $60,923 were mined in the Province of Quebec, 7,061 tons at $51,056 in Ontario and 40 tons worth $330 in Manitoba.

According to the Bureau of Mines, Ottawa, nepheline-syenite used as a substitute for straight feldspar in the glass trade, on account of its higher content of alumina, is doubtless responsible for the decreased sales of Canadian feldspar. This is a condition that may be expected to continue because, in the United States, to which much of the Canadian product is shipped, one half of the feldspar now used is consumed in glass manufacture. Canadian spar, however, enjoys a high reputation as a standard grade for various ceramic purposes, and a moderate demand is likely to be maintained both for domestic use and for export.

The output of crude fledspar in the United States rose sharply in 1939, exceeding in quantity any year except 1937 but the value was less than that in several earlier years, according to the Bureau of Mines, United States Department of the Interior. However, there was in 1939 a substantial production of feldspathic material, known as "aplite", in Virginia, which might have been included in the totals were it possible to do so without revealing confidential information. Even excluding this material, which virtually made its commercial debut in 1939, the average value of the output ($4.39) was less than in 1938, continuing a steady downtrend since 1936, when the average sales realization reported by producers was $5.32 a long ton.

Sales of ground feldspar in the United States increased sharply compared with 1938, the tonnage rising 20.8 per cent and the value 16.1 per cent. However, compared with 1937, the all-time record year, they were 7.2 per cent less in quantity and 17.9 per cent less in value. Of the total of 259,194 short tons sold by merchant mills in 1939, 53 per cent, or 138,336 tons were shipped to the glass industry; about 34 per cent (87,209 tons) consumed in pottery manufacture; 11 per cent (28,356 tons) used by the enamel trades; and the remainder entered miscellaneous uses, chiefly ceramic. Grinding mills processing 99 per cent of the total feldspar ground in the United States reported distribution of shipments by States in 1939. Chief consuming States in order of tonnage were: Ohio, Indiana, Pennsylvania, New Jersey, West Virginia, Illinois, and New York.

Table 1 - PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF FELDSPAR 1938 and 1939

	1938		1939	
	Quantity	Value	Quantity	Value
	Tons	$	Tons	$
PRODUCTION (SALES) - (d)				
Quebec	5,874	62,878	5,399	60,923
Ontario	8,106	65,964	7,061	51,056
Manitoba	78	451	40	330
TOTAL	14,058 ~	129,293 ~	12,500	112,309
IMPORTS OF FELDSPAR -				
Crude only	42	367	257	1,302
Ground (a)	615	10,083	608	10,379
EXPORTS OF FELDSPAR -				
TOTAL (/)	4,998	34,244	...	...
To - United Kingdom	...	4	...	...
United States	4,998	34,240	...	...
FELDSPAR ONLY (b) - Total	6,455	44,531	7,661	49,957
To - United Kingdom	3	90	2	60
United States	6,358	41,841	7,648	49,567
NEPHELINE-SYENITE (c)	22,787	94,877	24,701	87,487

(a) Not further manufactured than ground; all from United States.
(b) From April 1, 1938.
(c) From April 1, 1938; all to United States.
(d) Includes crude and ground.
(/) Feldspar and nepheline-syenite to March 31, 1938.

Table 2 - PRODUCTION OF FELDSPAR IN CANADA, BY PROVINCES, 1929-1939

	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	9.20
1939	5,399	60,923	7,061	51,056	40	330	8.98

Table 3 - 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	5,979	108,072
1938	41	1,129	1,890	35,979	3,567	62,291

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

Note - Feldspar used in Canada in 1938 in the manufacture of glass totalled 1,343 tons valued at $20,788.

Table 4 - 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	1,008	11,212
1934	1,091	13,420			

Table 5 - 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	441	7,385
1934	300	5,496	1938	390	5,215

(a) Quantity statistics not available.

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 6 - WORLD PRODUCTION OF FELDSPAR, 1936 - 1938 (Long tons)
(Supplied by Imperial Institute)

Producing country	1936	1937	1938
BRITISH EMPIRE			
United Kingdom -			
China stone	66,509	60,715	48,383
Canada (sales)	15,934	19,059	12,552
India	785	487	691
Australia (including china stone)	3,691	3,806	2,370
FOREIGN COUNTRIES			
Czechoslovakia (estimated)	30,000	30,000	25,000
Finland (exports)	2,480	3,181	4,966
Germany (Bavaria only)	7,864	9,828	(a)
Italy	8,484	13,225	13,180
Norway	24,792	23,859	(a)
Roumania	1,929	2,546	(a)
Sweden	55,902	48,364	44,399
Egypt	44	156	196
United States (sales)	244,726	268,532	190,119
Argentina	1,065	1,325	(a)
Brazil	(a)	8,300	(a)
Manchuria	74,000	(a)	(a)

Feldspar is also produced in U.S.S.R. and China.
(a) Information not available.

NEPHELINE-SYENITE

Production of nepheline-syenite in Canada during 1939 was valued at $140,148 compared with $142,737 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."

During 1939 the mineral was shipped by the Canadian Flint and Spar Co. Ltd. from the Bentley mine, Dungannon township, Hastings county; by Canadian Nepheline Ltd., from Methuen township, Peterborough county; by the Temagami Development Company Ltd., from the Morrison property, Dungannon township and by the New England Nepheline Co. Inc., from the Bancroft mine, Bancroft, Ontario.

The potential nepheline-syenite reserves of the Central Ontario region are undoubtedly very large, the Blue Mountain occurrence alone being a massive body about eight miles long and consisting in a large part of such rock. Numerous small outcrops are known in the Bancroft and adjacent areas to the north.

Table 7 - PRODUCTION OF NEPHELINE-SYENITE IN CANADA[1], 1936 - 1939

Year	Quantities	Value
		$
1936	(a)	37,426(b)
1937	(a)	121,481
1938	(a)	142,737
1939	(a)	140,148

[1] Produced in Ontario only.
(a) Quantity not published.
(b) First commercial production in Canada.

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 1939 totalled 1,582,935 short tons valued at $1,100,214 compared with 1,380,011 tons at $961,617 in 1938. 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 1939 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 sand-blasting 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 1939 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 low-grade 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 1939 of silex or crystallized quartz, ground or unground totalled 2,751 short tons valued at $61,497; imports of silica sand for glass, carborundum and steel and filtration plants, etc., in the same year, amounted to 167,721 short tons worth $349,256.

Table 8 - PRODUCTION IN CANADA AND IMPORTS OF QUARTZ AND SILICA PRODUCTS, 1938 and 1939

	1938		1939	
	Short Tons	Value $	Short Tons	Value $
PRODUCTION(x) (SHIPMENTS) -				
Nova Scotia	4,701	8,415	10,574	18,927
Quebec	85,153	315,251	104,827	369,172
Ontario	1,173,259	537,037	1,333,342	665,148
Manitoba	...	...	...	...
Saskatchewan	116,898	40,914	134,192	46,967
British Columbia	...	...	...	...
CANADA	1,380,011	961,617	1,582,935	1,100,214
IMPORTS -				
Ganister	360	2,888	255	2,018
Flint and ground flint stones	1,005	16,946	645	11,601
Silex or crystallized quartz, ground or unground	3,069	77,815	2,750	61,497
Silica sand for glass, carborundum and steel and filtration plants and sand blasting (a)	172,073	338,832	167,721	349,256
Silica fire brick, 90% + silica	...	240,184/	...	312,413

(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 164,232 tons from the United States, 3,388 tons from Belgium and 101 tons from the United Kingdom in 1939.
(/) Entirely from United States in 1938 and $294,228 from United States and $18,185 from the United Kingdom in 1939.

Table 9 - PRODUCTION (x) (USE) OF NATURAL LOW GRADE SILICA SAND AND SILICA GRAVEL AS NON-FERROUS SMELTER FLUX, 1937, 1938 and 1939

	1937		1938		1939	
	Tons	$	Tons	$	Tons	$
Ontario	980,427	343,149	990,020	349,657	1,195,558	418,445
Saskatchewan	95,809	33,533	116,898	40,914	134,192	46,967
CANADA-TOTAL	1,076,236	376,682	1,106,918	390,571	1,329,750	465,412

(x) Included in totals shown in Tables 8 and 10; also complete data for production of this material in Ontario during previous years are not available.

Table 10 - PRODUCTION OF QUARTZ (SILICA) IN CANADA, 1926 - 1939

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	1939 (x) ...	1,582,935	1,100,214

(x) See footnote to Table 9.

Table 11 - 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

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 1930 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 12 - PRODUCTION OF SILICA BRICK IN CANADA, 1930 - 1939

Year	M	Value	Year	M	Value
		$			$
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
1934	2,528	85,945	1939	2,493	124,807

The Foreign Minerals Quarterly of the United States Bureau of Mines states:- "Of particular interest is the new method by the Andes Copper Company, Chile, of reducing the consumption of silica brick in furnace arches by spraying at intervals with a water slurry containing about 56 per cent solids made up of 97 per cent pulverized silica and 3 per cent clay. This is done while the furnace is in operation and a protective coating of an inch or more is maintained on the surface exposed to corrosion, which lengthens the life of the furnace campaign to an indefinite extent".

PRICES -

UNITED STATES (May, 1940) - 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 13 - CONSUMPTION OF QUARTZ, SILICA SAND, ETC., IN CANADA, BY INDUSTRIES, ACCORDING TO CENSUS OF INDUSTRY REPORTS, 1937 and 1938

Industry	1937		1938(a)	
	Quantity	Cost at works	Quantity	Cost at works
	Short tons	$	Short tons	$
Silica Sand and Silica (including ground quarts) -				
Soaps and cleaning preparations	4,685	76,378	4,987	80,056
Acids and salts	11,659	54,769	11,453	49,391
Paints	836	21,306	838	23,986
Refractories	35	256	6	60
Roofing paper	1,976	11,657	1,050	5,152
Abrasives	45,240	211,899	32,746	159,284
Glass	82,267	382,728	77,499	363,233
Enameling materials	493	5,971	380	5,700
Products from imported clays ..	3,032	44,648	2,576	38,441
Foundry facings and supplies ..	48	430	32	243
Non-ferrous smelters(/)	1,076,236	376,682	1,106,918	390,571
Steel foundries	37,015	207,510	36,123	194,426
TOTAL ACCOUNTED FOR	1,263,522	1,392,234	1,274,608	1,310,523
Quartz and Quartzite -				
Acids and Salts	1,537	3,632	1,421	3,201
Ferro-alloys	35,633	80,201	23,711	47,539
TOTAL ACCOUNTED FOR	37,170	83,833	25,132	50,740

NOTE - Consumption values are costs at works.

(/) The quantities reported under this industry represent low grade natural siliceous 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 1939.

Table 14 - PRINCIPAL STATISTICS OF THE FELDSPAR AND QUARTZ MINING INDUSTRY, 1938 and 1939

		ONTARIO(x)(b)		QUEBEC	
		1938	1939	1938	1939
Number of firms (a)		15	17	17	26
Capital employed	$	585,102	598,255	1,020,034	992,760
Number of employees - On salary		25	15	24	20
On wages		142	169	184	134
Total		167	184	208	154
Salaries and wages - Salaries	$	30,133	19,915	35,675	30,995
Wages	$	140,959	165,721	135,481	113,539
Total	$	171,092	185,636	171,156	144,534
Selling value of products (gross)	$	855,518	922,576	378,129	430,095
Cost of fuel and purchased electricity	$	30,360	35,525	45,290	43,589
Cost of process supplies	$	68,774	74,217	24,085	25,390
Net value of sales	$	756,384	812,834	308,754	361,116

(x) In 1938 includes 1 firm operating in Nova Scotia, Manitoba and Saskatchewan (a total of 3). In 1939 includes 1 firm in Nova Scotia, 2 in Manitoba 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 15 - NUMBER OF WAGE-EARNERS ON PAY ROLL, BY MONTHS, 1936 - 1939

				1939		
Month	1936	1937	1938	Quebec	Ontario	CANADA(x)
January	188	278	279	113	96	209
February	186	282	292	105	106	211
March	192	289	280	114	107	221
April	199	338	271	116	94	210
May	254	345	362	130	170	314
June	321	416	382	144	171	331
July	354	461	413	153	196	367
August	364	455	429	178	197	397
September	407	490	368	164	188	374
October	383	484	318	175	205	402
November	331	474	299	149	190	356
December	303	367	222	145	150	313

(x) Includes a few employees in some months in Nova Scotia and Manitoba.

Table 16 - WAGE-EARNERS WORKING THE HOURS SPECIFIED DURING ONE WEEK IN MONTH OF NORMAL EMPLOYMENT, 1939

Hours	Number	Hours	Number
30 or less	2	49 - 50	11
31 - 43	47	51 - 54	64
44	15	55	5
45 - 47	10	56 - 64	120
48	112	65 and over	7
Grand Total Employees in week specified			391
Total wages paid in week specified			$ 7,639

Table 17 - FUEL AND ELECTRICITY USED, 1939(b)

Kind	Unit of measure	CANADA Quantity	CANADA Cost at works $	Ontario Quantity (a)	Ontario Cost at works $	Quebec Quantity	Quebec Cost at works $
Bituminous coal -							
Canadian	short ton	892	6,334	5	20	887	6,314
Foreign	short ton	4,136	25,006	4,106	24,845	30	161
Anthracite coal -							
United States..	short ton	7	90	...	...	7	90
Other	short ton	5	105	...	...	5	105
Coke	short ton	...	...	...	...	...	...
Gasoline	Imp. gal.	37,692	7,674	26,083	5,023	11,609	2,651
Kerosene	Imp. gal.	3,546	593	3,546	593	...	...
Fuel oil	Imp. gal.	237,919	20,766	13,770	1,621	224,149	19,145
Wood	cord (f)	888	3,316	424	1,424	464	1,892
Other	$	...	1	...	...	...	1
Electricity purchased	K.W.H.	1,283,842	15,229	286,242	1,999	997,600	13,230
TOTAL	$	...	79,114	...	35,525	...	43,589
Electricity generated for own use	K.W.H.	1,139,158	...	70,606	...	1,059,552	...

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

Table 18 - POWER EQUIPMENT INSTALLATION, 1939

Description	QUEBEC Number	QUEBEC Horse power	ONTARIO (a) Number	ONTARIO (a) Horse power
Ordinarily in Use				
Steam engines and steam turbines	...	...	6	538
Diesel engines	3	765	1	57
Other internal combustion engines	7	213	11	596
Electric motors operated by purchased power ...	30	716	27	317
Electric motors operated by establishment power	70	810	5	119
Boilers	4	215	5	500
In reserve or idle				
Steam engines and steam turbines	1	35	...	...
Diesel engines	...	...	...	...
Other internal combustion engines	...	...	...	...
Electric motors operated by purchased power ...	...	...	...	...
Electric motors operated by establishment power	7	25	...	...
Boilers	1	80	...	...

(a) Includes 1 property in Nova Scotia.

LIST OF FIRMS IN THE CANADIAN FELDSPAR AND QUARTZ MINING INDUSTRY, 1939

(a) - shipped silica only.
(b) - operate a milling plant.
(c) - shipped scapolite.

Name of Firm	Head Office Address	Location of mine or mill
NOVA SCOTIA -		
Nairn, J. S. (a)	Sydney (24 Whitney Ave.)	Leitches Creek
QUEBEC -		
Berthel, J. D. (a)	Buckingham	Buckingham Dist.
Bigelow, Clifford (a)	Glen Almond	Portland E. Tp.
Bigelow, Gordon and Parcher, A.	Glen Almond	Derry Tp.
Cameron, Wm.	Buckingham	Buckingham Tp.
Canadian Flint & Spar Co. Ltd. (b)	Victoria Bldg., Ottawa, Ont.	Buckingham
Canadian Kaolin Silica Products Ltd. (a)(b)	1007 Canada Cement Bldg., Montreal	St. Remi d'Amherst
Canadian Carborundum Co. Ltd. (a)	Box 65, Niagara Falls, Ont.	St. Canut
Constantineau, Leon (c)	Pointe aux Chenes	Argenteuil Co.
Cosgrove, J. W. (a)	Buckingham	Buckingham Tp.
Couture, T. (a)	Glen Almond	Buckingham Tp.
Degagne, Jos.	Buckingham	Buckingham Dist.
Donaldson, Robert J.	Glen Almond	Buckingham Tp.
Evans, Ted (a)	Box 386, Buckingham	Buckingham Dist.
Evans, W. H. and McDonnell, B.A.	Box 386, Buckingham	Derry Tp.
Gordon, Alfred (a)	Buckingham	Buckingham Dist.
Hill, W. (a)	Glen Almond	Glen Almond
H. C. F. Sands Ltd. (a)	Box 310, Noranda	Guigues Tp.
Lapointe, Mrs. Agnes	Buckingham	Buckingham Dist.
McDonnell, B. A.	Buckingham	Derry Tp.
Montpetit, Euclyde (a)	Melocheville	Melocheville
Nerborne, Leo	Glen Almond	Glen Almond
Newton, Alfred (a)	Glen Almond	Glen Almond
Ottawa Silica & Sandstone Ltd. (a)	East Templeton	Hull Co.
Parcher, Alfred Jr.	Glen Almond	Derry Tp.
Percher, Maggie	Glen Almond	Derry Tp.
Pedneaud, Louis	Buckingham	Buckingham Tp.
Perkins Mining Co.	Gatineau Pointe	Derry and Portland E. Tps.
Smith, Allan (a)	Glen Almond	Glen Almond
St. Amour, Orphila	Notre Dame de la Salette	Portland W. Tp.
Stewart, Wm. (a)	Buckingham	Buckingham Dist.
Thompson, Christopher (a)	Poupore	Poupore
Warwick, Wm. (a)	Glen Almond	Portland Tp.

LIST OF FIRMS IN THE CANADIAN FELDSPAR AND QUARTZ MINING INDUSTRY, 1939
(Concluded)

Name of Firm	Head Office Address	Location of mine or mill
ONTARIO -		
Bathurst Feldspar Mines Ltd.	Room 508, 21 King St. E., Toronto	Lanark Co.
Cameron, Wallace B.	Box 16, Madawaska	Madawaska
Craig, T. H.	Box 302, Perth	Lanark Co.
Dominion Mines and Quarries Ltd. (a)(b)	Canada Life Bldg., Toronto	Killarney
Frontenac Floor & Wall Tile Co. Ltd. (b)	Kingston	Kingston
Gunter, J. A.	Princess Lake	Sabine Tp.
Prince and Prince	Princess Lake	Sabine Tp.
Wright & Co. (a)	960 Queen St., Sault Ste. Marie,	Algoma Central R.R.
MANITOBA -		
De Korb, V. C.	Gen. Del., Winnipeg	E. Manitoba
Winnipeg River Tin Mines Ltd.	1139 McDermot Ave., Winnipeg	Pointe du Bois

NEPHELINE SYENITE

ONTARIO -		
Canadian Flint & Spar Co. Ltd.	140 Wellington St., Ottawa	Dungannon Tp.
Canadian Nepheline Ltd. (b)	Room 714, 320 Bay St., Toronto	Methuen Tp.
New England Nepheline Co. Inc.	Box 224, Trenton, N.J., U.S.A.	Bancroft
Temagami Development Co. Ltd.	58 King St. W., Toronto	Dungannon Tp.

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