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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 1940

(including data relating to Nepheline-Syenite)

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THE FELDSPAR AND QUARTZ MINING INDUSTRY, 1940

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 1940 the gross value of production by the industry and including the value of feldspar, quartz and nepheline-syenite sold totalled $1,508,999 compared with corresponding values of $1,233,647 in 1938 and $1,352,671 in 1939. In 1940 commercial shipments of feldspar were made only from properties located in Ontario 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 1940 totalled 44, capital employed was recorded at $2,174,258, employees numbered 400, salaries and wages paid amounted to $377,254 and the value of fuel, electricity and process supplies consumed totalled $214,517. The net value of all products sold was estimated at $1,294,482 compared with $1,175,950 in 1939.

FELDSPAR

Production of feldspar in Canada during 1940 totalled 21,455 short tons valued at $187,623 compared with 12,500 short tons at $112,309 in 1939. Of the 1940 output, 8,548 tons valued at $89,004 were mined in the province of Quebec, and 12,907 tons at $98,619 in Ontario.

Feldspar mining in Quebec is centered chiefly in the Buckingham district of the Ottawa Valley, while in Ontario the mineral is obtained principally in the Kingston-Perth area and the Nipissing district. Grinding mills are operated at Kingston, Ontario and Buckingham, Quebec.

Table 1 - PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF FELDSPAR, 1939 and 1940

	1939		1940	
	Quantity	Value	Quantity	Value
	Tons	$	Tons	$
PRODUCTION (SALES) - (b)				
Quebec	5,399	60,823	8,548	89,004
Ontario	7,061	51,056	12,907	98,619
Manitoba	40	330	...	...
TOTAL	12,500	112,309	21,455	187,623
IMPORTS OF FELDSPAR -				
Crude only	257	1,302	51	675
Ground (a)	608	10,379	740	13,661
EXPORTS OF FELDSPAR -				
Total	7,661	49,957	14,255	95,846
To - United Kingdom	2	60	(c)	(c)
United States	7,648	49,567	(c)	(c)
NEPHELINE-SYENITE	24,701	87,487	25,812	111,357

(a) Not further manufactured than ground.
(b) Includes crude and ground.
(c) Not published.

Table 2 - PRODUCTION OF FELDSPAR IN CANADA, BY PROVINCES, 1930 - 1940

	QUEBEC		ONTARIO		MANITOBA	
	Tons	$	Tons	$	Tons	$
1930	17,074	163,802	9,722	104,667	...	...
1931	10,581	86,842	7,962	100,119	...	...
1932	5,590	39,062	5,657	42,920	...	...
1933	6,183	59,285	4,387	45,350	88	484
1934	9,207	78,853	7,302	81,665	1,793	6,765
1935	7,002	63,075	8,656	75,003	2,084	6,252
1936	8,115	75,703	8,409	70,840	1,522	7,932
1937	12,285	105,612	9,061	72,610	...	...
1938	5,874	62,878	8,106	65,964	78	451
1939	5,399	60,923	7,061	51,056	40	350
1940	8,548	89,004	12,907	98,619	...	...

Table 3 - CONSUMPTION OF FELDSPAR IN CANADA, BY SPECIFIED INDUSTRIES, 1930 - 1939

Year	Artificial Abrasive 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	8	175	1,406	28,045	5,095	89,818
1933	6	115	861	16,297	5,762	98,393
1934	25	688	1,488	30,577	9,758	150,842
1935	34	939	1,155	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	55,979	3,567	62,291
1939	45	1,368	2,021	58,840	3,028	55,250

(x) Includes feldspar consumed in the manufacture of glass.
NOTE: Feldspar used in Canada in 1939 in the manufacture of glass totalled 609 tons valued at $9,727.

Table 4 - FELDSPAR USED IN THE MANUFACTURE OF CANADIAN SOAPS AND CLEANING PREPARATIONS, 1930 - 1939

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	1939	1,146	12,413

Table 5 - FELDSPAR CONSUMED IN THE MANUFACTURE OF CANADIAN IRON AND STEEL PRODUCTS, 1931 - 1939

Year	Tons	$	Year	Tons	$
1931	(a)	3,386	1936	569	6,503
1932	(a)	2,799	1937	441	7,385
1933	147	2,969	1938	390	5,215
1934	300	5,496	1939	468	8,242
1935	662	11,554			

(a) Quantity statistics not available.

FELDSPAR PRICES (October, 1939 to May 1, 1941) - 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 March, 1941, 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 $7.50.

Table 6 - WORLD PRODUCTION OF FELDSPAR, 1936 - 1939 (Long tons) - (Supplied by Imperial Institute)

Producing Country	1936	1937	1938	1939
BRITISH EMPIRE				
United Kingdom -				
China stone	66,509	60,715	48,585	...
Canada (sales)	15,934	19,059	12,552	11,161
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	5,508
Germany (Bavaria only)	7,864	8,828	(a)	...
Italy	8,484	13,225	13,180	...
Norway	24,792	25,859	(a)	...
Roumania	1,929	2,546	3,288	...
Sweden	55,902	48,364	44,399	...
Egypt	44	156	196	73
United States (sales)	244,726	288,532	196,119	253,466
Argentina	1,065	1,325	610	1,054
Brazil	(a)	8,300	(a)	...
Manchuria	74,000	(a)	(a)	...

(a) Information not available.

Feldspar is also produced in U.S.S.R. and China.

According to the United States Bureau of Mines Minerals Year Book for 1940, an interesting cooperative venture is the Western North Carolina Feldspar Market established recently at Sylva, N.C. A nonprofit organization, sponsored by the Sylva Chamber of Commerce, Feldspar Market Committee, A. F. Clouse, chairman, it is modeled somewhat after the pattern of the farm cooperatives. The object is to encourage development of the feldspar deposits in Swain, Macon, and Jackson Counties by supplying a ready cash market for producers in this region. The plan provides for the purchase of feldspar from many small miners, sorting and blending of the spar, and shipping in carlots. A site convenient to highway and railroad has been procured, and arrangements have been made for buyers representing different companies to be present on designated periodic "feldspar-market" days. The farmers or other small producers are then assured a fair competitive price for their feldspar. According to a recent informant the venture seems to be functioning successfully, and the erection of a grinding mill is under consideration.

Table 7 - CRUDE FELDSPAR SOLD OR USED BY PRODUCERS IN THE UNITED STATES, 1936 - 1940 (U.S. Bureau of Mines)
(Value at mine or nearest shipping point)

Year	Long tons	VALUE Total	VALUE Average	Year	Long tons	VALUE Total	VALUE Average
		$	$			$	$
1936	244,726	1,303,090	5.32	1939	253,466	1,112,857	4.39
1937	288,532	1,585,249	5.15	1940	290,760	1,271,995	4.37
1938	196,119	895,081	4.56				

Table 8 - GROUND FELDSPAR SOLD BY MERCHANT MILLS(x) IN THE UNITED STATES, 1936 - 1940 (U.S. Bureau of Mines)

Year	Active mills	UNITED STATES Short tons	UNITED STATES Value Total	UNITED STATES Value Average	CANADIAN Short tons	CANADIAN Value Total	CANADIAN Value Average
			$	$		$	$
1936	30	222,126	2,884,493	12.99	14,764	270,360	18.31
1937	31	265,587	3,187,135	12.10	15,865	299,556	18.86
1938	30	206,646	2,314,675	11.20	7,868	151,577	19.26
1939	31	249,889	2,685,473	10.75	9,305	176,805	19.00
1940	29	277,612	2,912,470	10.49	8,101	155,012	18.89

(x) Excludes potters or others who grind for consumption in their own plants.

NEPHELINE-SYENITE

Production of nepheline-syenite in Canada during 1940 was valued at $117,849 compared with $140,148 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 1940 the mineral was shipped by the Canadian Flint and Spar Co. Ltd. from the Bentley mine, Dungannon township, Hastings county; by the American Nepheline Corp. Ltd., from Methuen township, Peterborough county; and by the Temagami Development Company Ltd., from the Morrison property, Dungannon township, Hastings county.

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 9 - PRODUCTION OF NEPHELINE-SYENITE IN CANADA(x), 1936 - 1940

Year	Quantities	Value
		$
1936	(a)	37,426 (b)
1937	(a)	121,481
1938	(a)	142,737
1939	(a)	140,148
1940	(a)	117,849

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

Nepheline-syenite used in Canada during 1939 in the manufacture of glass totalled 5,472 tons valued at $58,629.

QUARTZ (SILICA)

The production of natural silica or quartz in Canada during 1940 totalled 1,858,302 short tons valued at $1,205,527 compared with 1,582,955 tons at $1,100,214 in 1939. Output of primary silica products by the Canadian Quartz Mining industry includes crude and crushed dyke quartz, quartzite, and natural silica sands and gravels. The mineral in one or more of the forms thus defined was produced during 1940 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 were mined and milled for the manufacture of silicon carbide and other products. During the year the plant of Canadian Kaolin Silica Products Ltd., located at St. Remi d'Amherst, Que., was destroyed by fire. The greater part of the tonnage of silica shipped in Ontario during 1940 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 1940 of silex or crystallized quartz, ground or unground totalled 4,149 short tons valued at $56,814; imports of silica sand for glass, carborundum and steel and filtration plants, etc., in the same year, amounted to 278,727 short tons worth $556,685.

Table 10 - PRODUCTION IN CANADA AND IMPORTS OF QUARTZ AND SILICA PRODUCTS, 1939 and 1940

	1939		1940	
	Short tons	Value	Short tons	Value
		$		$
PRODUCTION(x) (SHIPMENTS) -				
Nova Scotia	10,574	18,927	8,755	15,670
Quebec	104,827	569,172	109,090	521,891
Ontario	1,333,342	665,148	1,581,367	810,285
Saskatchewan	134,192	46,967	159,090	55,681
CANADA	1,582,935	1,100,214	1,858,302	1,205,527
IMPORTS -				
Ganister	255	2,018	595	5,484
Flint and ground flint stones	645	11,601	579	15,698
Silex or crystallized quartz, ground or unground	2,750	61,497	4,149	56,814
Silica sand for glass, carborundum and steel and filtration plants and sand blasting	167,721	349,256	278,727	556,685
Silica fire brick, 90% silica	...	312,415	...	472,215

(x) Includes both crude and crushed quartz and quartzite, silica flux and natural silica sands.

Table 11 - PRODUCTION(x) (USE) OF NATURAL LOW GRADE SILICA SAND AND SILICA GRAVEL AS NON-FERROUS SMELTER FLUX. 1938 - 1940

	1938		1939		1940	
	Tons	$	Tons	$	Tons	$
Ontario	990,020	349,657	1,195,558	418,445	1,403,268	491,144
Saskatchewan	116,898	40,914	134,192	46,967	159,090	55,681
CANADA TOTAL	1,106,918	390,571	1,329,750	465,412	1,562,358	546,825

(x) Included in totals shown in Tables 10 and 12; also complete data for production of this material in Ontario previous to 1937 are not available.

Table 12 - PRODUCTION OF QUARTZ (SILICA) IN CANADA, 1927 - 1940

Year	Ton	$	Year	Ton	$
1927	253,984	496,346	1934	272,565	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	189,152	276,147	1939 (x)	1,582,935	1,100,214
1933	185,785	297,820	1940 (x)	1,858,302	1,205,527

(x) See footnote to Table 11.

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. In 1940 a shipment of natural pebbles for grinding purposes was made from a deposit located at Gouverneur, Saskatchewan; these were consigned for experimental purposes to an Eastern Canadian feldspar grinding plant. Quartzite pebbles from beach deposits located some 35 miles from Sydney, Nova Scotia were tested by the Department of Mines, Ottawa, in 1919; the Nova Scotia Department of Mines report that the results from these tests indicated a better wear than from imported flint pebbles.

Table 13 - PRODUCTION OF SILICA BRICK IN CANADA, 1931 - 1940

Year	M	Value	Year	M	Value
		$			$
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
1935	2,461	96,194	1940	3,438	182,786

PRICES - UNITED STATES (May, 1941) - 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, $18 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 to $150 per ton; prisms for piezo-electrical and optical use commend premium. (Engineering and Mining Journal's "Metal and Mineral Markets" - New York).

"Canadian Chemistry and Process Industries" - Toronto - quotations (March, 1941) - silica sand, various grades, carlots, ton $8 to $9.50. 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 14 - CONSUMPTION OF QUARTZ, SILICA SAND, ETC., IN CANADA, BY INDUSTRIES, ACCORDING TO CENSUS OF INDUSTRY REPORTS, 1938 and 1939

Industry	1938		1939(x)	
	Quantity	Cost at works	Quantity	Cost at works
	Short tons	$	Short tons	$
Silica Sand and Silica (including ground quarts) -				
Soaps and cleaning preparations	4,987	80,056	5,654	86,596
Acids and salts	12,874	52,592	16,265	76,229
Paints	838	23,986	748	21,511
Refractories	6	60	440	2,640
Roofing paper	1,050	5,132	1,420	7,877
Abrasives	32,746	159,284	32,661	161,514
Glass	77,499	363,233	74,511	351,671
Enamelling materials	380	5,700	390	5,850
Products from imported clays	2,576	38,441	1,968	27,161
Foundry facings and supplies	32	243	102	714
Non-ferrous smelters (A)	1,106,918	390,571	1,329,750	465,412
Steel industry	11,969	79,245	28,360	183,756
Ferro-alloys	23,711	47,539	34,654	77,863
TOTAL ACCOUNTED FOR	1,275,586	1,246,082	1,526,925	1,468,794

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, a relatively large quantity of quartz and quartzite is consumed in the manufacture of silica brick.
(x) Data not yet complete for 1940.

Table 15 - PRINCIPAL STATISTICS OF THE FELDSPAR AND QUARTZ MINING INDUSTRY, 1939 and 1940

	ONTARIO(x)(b)		QUEBEC	
	1939	1940	1939	1940
Number of firms (a)	17	17	26	27
Capital employed $	598,255	604,687	992,760	1,569,571
Number of employees - On salary	15	14	20	19
On wages	169	176	134	191
Total	184	190	154	210
Salaries and wages - Salaries $	19,915	22,508	30,995	18,137
Wages $	165,721	189,583	113,539	147,028
Total $	185,636	212,091	144,534	165,165
Selling value of products (gross) $	922,576	1,098,104	430,095	410,895
Cost of fuel and purchased electricity $	35,525	40,380	43,589	35,754
Cost of process supplies $	74,217	88,521	25,390	49,862
Net value of sales $	812,834	969,203	361,116	325,279

(x) In 1940 includes 1 firm operating in Nova Scotia and 1 in Saskatchewan (a total of 2). 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 16 - NUMBER OF WAGE-EARNERS ON PAY ROLL, BY MONTHS, 1937 - 1940

Month	1937	1938	1939	1940		
				Quebec	Ontario	CANADA(x)
January	278	279	209	178	106	284
February	282	292	211	195	94	289
March	289	280	221	212	126	338
April	338	271	210	194	133	327
May	345	362	314	176	185	379
June	416	382	331	203	186	409
July	461	413	367	186	194	400
August	455	429	397	216	216	451
September	490	368	374	205	204	428
October	484	318	402	200	211	430
November	474	299	356	165	195	375
December	367	222	313	145	139	301

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

Table 17 - WAGE-EARNERS WORKING THE HOURS SPECIFIED DURING ONE WEEK IN MONTH OF NORMAL EMPLOYMENT, 1940

Hours	Number	Hours	Number
30 hours or less	25	49 - 50 hours	40
31 - 43 hours	31	51 - 54 hours	7
44 hours	5	55 hours	53
45 - 47 hours	15	56 - 64 hours	156
48 hours	140	65 hours and over	84

Grand Total Employees in week specified 550
Total wages paid in week specified ..... $ 10,878

Table 18 - FUEL AND ELECTRICITY USED, 1940(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	1,500	9,920	2	14	1,298	9,906
Foreign	short ton	4,534	26,220	4,524	26,150	10	70
Anthracite coal -							
United States	short ton	...	...	...	...	...	...
Other	short ton	...	...	...	...	...	...
Coke	short ton	5	76	1	21	4	55
Gasoline	Imp. gal.	44,475	9,925	30,768	6,399	13,707	3,526
Kerosene	Imp. gal.	1,427	298	1,233	263	194	35
Fuel oil	Imp. gal.	90,142	9,017	12,540	1,952	77,602	7,065
Wood	cord (f)	1,184	4,207	803	2,749	375	1,458
Gas(a) - Manufactured	M cu. ft.	2,694	707	2,694	707	...	...
Other	$	...	2	...	...	...	2
Electricity purchased	K.W.H.	1,499,324	15,762	345,024	2,125	1,154,300	13,637
TOTAL	$	...	76,154	...	40,380	...	35,754
Electricity generated for own use	K.W.H.	692,081	...	90,397	...	601,684	...

(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 19 - POWER EQUIPMENT INSTALLATION, 1940

Description	QUEBEC Number	QUEBEC Horse power	ONTARIO (a) Number	ONTARIO (a) Horse power
Ordinarily in Use				
Steam engines and steam turbines	1	150	4	588
Diesel engines	3	765	3	292
Other internal combustion engines	5	190	15	669
Electric motors operated by purchased power	34	750	27	317
Electric motors operated by establishment power ...	99	888	5	19
Stationary boilers	5	365	5	500
In Reserve or Idle				
Steam engines and steam turbines	...	...	...	...
Diesel engines	...	...	...	...
Other internal combustion engines	...	...	...	...
Electric motors operated by purchased power	...	...	...	...
Electric motors operated by establishment power ...	...	...	...	...
Stationary boilers	1	35	...	...

(a) Includes 1 property in Nova Scotia.

LIST OF FIRMS IN THE CANADIAN FELDSPAR AND QUARTZ MINING INDUSTRY, 1940

(a) - shipped silica only.
(b) - operate a milling plant
(c) - shipped scapolite
(d) - shipped garnet sand
(e) - shipped grinding pebbles

Name of Firm	Head Office Address	Location of mine or mill
NOVA SCOTIA -		
Nairn, J. S. (a)	Sydney (24 Whitney Ave.)	Leitches Creek
QUEBEC -		
Barr, Walter	Beachburg, Ont.	Aberford Tp.
Bigelow, T. (a)	Poupore	Poupore
Bigelow, Gordon and Parcher, A.	Glen Almond	Derry Tp.

LIST OF FIRMS IN THE CANADIAN FELDSPAR AND QUARTZ MINING INDUSTRY, 1940
(Concluded)

Name of Firm	Head Office Address	Location of mine or mill
QUEBEC - (Concluded)		
Bigelow, Robert	Buckingham	Derry Tp.
Bon Ami Ltd.	13719 Notre Dame St. E., Montreal	Buckingham Tp.
Cameron, Wm.	Buckingham	Buckingham Tp.
Cameron, R. L.	Buckingham	Buckingham Dist.
Canadian Flint & Spar Co. Ltd. (b)	140 Wellington St., 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 57, Niagara Falls, Ont.	St. Canut
Constantineau, Leon (c)	Pointe aux Chenes	Argenteuil Co.
Cosgrove, J. W. (a)	Buckingham	Buckingham Tp.
Donaldson, Robert J.	Glen Almond	Buckingham Tp.
Evans, W. H. and McDonnell, B. A.	Buckingham	Derry Tp.
Grenat Canada Ltd. (d)	4203 rue Brebeuf	Joly Tp.
Hill, W. A.	Glen Almond	Buckingham
McDonnell, B. A.	Buckingham	Derry Tp.
Montpetit, Euclyde (a)	Melocheville	Melocheville
Morin, A. H.	Buckingham	Glen Almond
Newton, Alfred (a)	Buckingham	Glen Almond
Ottawa Silica and Sandstone Ltd. (a)	East Templeton	Hull Co.
Parcher, Maggie	Glen Almond	Derry Tp.
Pedneaud, Louis	Buckingham	Glen Almond
Perkins Mining Co.	Gatineau Pointe	Derry and Portland E. Tps.
Stewart, Wm. (a)	Buckingham	Buckingham Dist.
Thompson, C. (a)	Glen Almond	Glen Almond
Warwick, Wm. (a)	Glen Almond	Buckingham Tp.
Wallingford & Evans	Gatineau Pointe	Buckingham Dist.
ONTARIO -		
Bathurst Feldspar Mines Ltd.	Room 508, 21 King St. E., Toronto	Lanark Co.
Cameron, Wallace B.	Madawaska	Madawaska
Craig, T. H.	Box 302, Perth	Lanark Co.
Dominion Mines & Quarries Ltd. (a)(b)	Canada Life Bldg., Toronto	Killarney
Evans, W. H.	Perth	Lanark Co.
Frontenac Floor & Wall Tile Co. Ltd.(b)	Kingston	Kingston
Gole, John G.	Room 54 .. 18 Toronto St., Toronto	Nipissing Dist.
Magnetawan Feldspar Mining Syndicate Ltd.	64 Kent Road, Toronto	Parry Sound Dist.
Meeks, Leonard	Verona	Bell Rock
MacDonald, P.	Hybla	Hybla
Wood, W. A.	258 Kensington Ave. N., Hamilton	Hastings Co.
Wright & Co. (a)	960 Queen St., Sault Ste. Marie	Algoma Central R.R.
MANITOBA -		
Winnipeg River Tin Mines Ltd.	1139 McDermot Ave., Winnipeg	Pointe du Bois
SASKATCHEWAN -		
Davis, Norman B. (e)	207 Victoria Bldg., Ottawa, Ont.	Gouverneur

NEPHELINE SYENITE

ONTARIO -		
Canadian Flint & Spar Co. Ltd.	140 Wellington St., Ottawa	Dungannon Tp.
American Nepheline Corp.	Lakefield	Methuen Tp.
Temagami Development Co. Ltd.	c/o B. W. Watkins, Newtonbrook	Dungannon Tp.

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