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Mining, Metallurgical and Chemical Branch  
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## CLAY AND CLAY PRODUCTS, 1932

The Clay and Clay Products Industry in Canada is classified into two divisions: (1) production from domestic clays, which includes the production of refractories, building brick, structural tile, floor tile, roofing tile, drain tile, sewer pipe and pottery, and (2) production from imported clays, which includes the manufacture of porcelain insulators, refractories, earthenware, pottery and ceramic floor and wall tile.

The Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics at Ottawa reports that there were 180 plants representing a total capital investment of \$29,555,349 operating in the domestic and imported clay products industries in Canada during 1932. These two industries provided employment for 2,455 persons during the year; their earnings totalled \$2,283,855. The combined production in 1932 was valued at \$5,240,629 as compared with \$10,297,026 in 1931.

The existence of abnormal conditions in construction and general industry continued to adversely affect the Canadian clay industries throughout the period under review.

## 1. Production from Domestic Clays

The value of clay and clay products sold by Canadian producers during 1932 declined 53 per cent below that for the preceding year and 65 per cent below 1930. Sales in 1932 reached a total value of \$3,650,218 as against \$7,841,288 in 1931. Declines were registered in the value of all clay products with the exception of roofing tile which showed a considerable increase in quantity and value over the previous year. Of the value of the total domestic clay products production, Ontario produced 45 per cent; Quebec, 29 per cent; Alberta, 9 per cent; and the other provinces in the order of their output value, were: British Columbia, Nova Scotia, Saskatchewan, New Brunswick and Manitoba.

Plants for the production of brick and tile were in operation during 1932 in every province in Canada except Prince Edward Island. Throughout the Dominion there were 164 plants engaged in the manufacture of various kinds of brick, sewer pipe, structural tile, drain tile, and other clay products from Canadian clays or shales. Seven firms produced coarse earthenware, stoneware and other pottery from domestic clays during the year; shipments of these commodities were valued at \$244,861. Products classified as other and amounting to \$19,932 included such commodities as haydite, blue clay, plastic refractories, crushed brick, and modelling clay.

Fire clay blocks and shapes and fire clay were produced during 1932 in Nova Scotia, New Brunswick, Saskatchewan and British Columbia. Sales of these products reached a total of \$87,035; firebrick was manufactured in Saskatchewan, Alberta and British Columbia in 1932, sales of these amounted to \$71,757 in value as compared with \$107,597 in 1931.

Capital employed in the 164 plants making clay products from domestic clays during 1932 was reported at \$25,347,582. Salaries and wages paid to 1,740 employees amounted to \$1,576,586. Fuel consumed during the year consisted of 14,834 tons of Canadian coal, 51,582 tons of imported coal, 15,764 cords of wood, 178,650 thousand cubic feet of natural gas, and minor quantities of coke, fuel oil, gasoline and kerosene. The total cost of this fuel was \$579,803. Electricity purchased by the operating companies totalled \$106,783.

Ceramic bodies for electrical heating devices have been developed in the ceramic laboratories of the Department of Mines, Ottawa, which tests indicate are far superior in resistance to thermal shock to any ware now on the market. As an outcome of investigations on the colour control of brick, certain plants in the Maritime Provinces are now producing face brick on a commercial scale. This production, it is reported, will probably lead to the complete displacement of imported brick into the Maritime markets. Tests also conducted by the Department on china clay and silica sand from holdings on the Missinaibi River in Northern Ontario, indicate that these materials are of economic importance.

C. H. Vivian states in "Clay Products News and Ceramic Record" that one of the more recent commercial applications of vacuum is in the removal of air from stiff mud clays prior to forming these into brick, tile and other products. Although the process is still in its infancy, it has already been employed by two potteries in the making of the more delicate ceramic products such as whiteware ... The extraction of air from clays increases the weight of the finished article from 3 to 6 per cent; while this is of no especial value in most products, it means greater compactness ... evacuation of air improves the appearance of the product. The increase in plasticity results in smoother surfaces and sharper edges, tears and deformations are less frequent and blistering seems to be eliminated. The increases in strength in the plastic stage are quite remarkable.

"Contract and Engineering Review" reports that possibly the newest innovation of the year in water treatment was the introduction of bleaching clay, sometimes known as fullers' earth ... This can be used jointly with alumina sulphate and aids floe formation ... this substance does not impart to water any chemical characteristics that might be disagreeable, and it has great advantages in water treatment due to its low cost. An article on coloured brick appearing in the same publication states that even with the many colours in brick and the interesting and novel textures now being produced, there is demand for a still wider range. Within the last few years many large buildings, especially in the United States, have been constructed with a glazed brick and demand for this type is very likely to develop in Canada.

At the Brick Manufacturers convention in Washington, D.C., it was emphasized that reinforced brick masonry is regarded as the greatest recent development in the clay products industry and promises a real revival in the use of brick.. An unusual point in distribution was made by Mr. Stoddard, Secretary-Manager of the Brick Manufacturers' Association of America (associated with the Brick Manufacturers' Association of Canada) in his suggestion that brick manufacturers sell mortar, mortar colours and waterproofing.

As the result of recent work undertaken in the United States to compare the efficiency of fullers' earth and activated carbon for bleaching packing house by-product fats and greases, it was disclosed that the physical condition of the earth employed had much to do with the efficiency of bleaching. It has been found that fullers' earth or clays of essentially the same chemical composition may act radically differently in bleaching efficiency. Fullers' earth from different locations have different absorptive powers and it seems to be the consensus of

opinion among oil experts that English earth is a trifle better than the varieties in the United States.

According to the United States Vice Consul at Berlin, synthetic china clay has been produced at Goettingen by an absorption union between clay and silicic acid.

It is interesting to note that the exterior of the recently developed steel dwelling as erected at the "Century of Progress Fair" at Chicago is covered with slabs 1 3/4 inches thick, 2 feet wide, and 2 to 8 feet long. This material consists of a layer of tough, light weight haydite covered with thin-gauge steel, which has on its exterior surface a weather resisting coat of porcelain enamel.

The Brick Manufacturers' Association with headquarters at 1305 Metropolitan Building, Toronto, Ontario, was organized in 1932. This association is entirely a service organization intended to give constructive information to architects, engineers, builders, contractors and others interested in brick construction. It will seek to promote the use of brick as a building material and endeavour to develop new fields for its utilization.

Table 1 -- Principal Statistics of the Domestic Clay Products Industry in Canada, 1931 and 1932.

	1931	1932
Number of plants .....	189	164
Capital employed .....\$	33,819,164	25,347,582
Number of employees: -- On salary .....	435	304
On wages .....	2,824	1,436
Total .....	3,259	1,740
Salaries and wages -- Salaries .....\$	918,781	565,675
Wages .....\$	2,622,469	1,010,911
Total .....\$	3,541,250	1,576,586
Cost of fuel and electricity .....\$	1,505,158	579,803
Selling value of products .....\$	7,841,288	3,650,218

Table 2 -- Fuel and Electricity Used in the Domestic Clay Products Industry in Canada, 1931 and 1932.

Kinds	Unit of measure	1931	Cost at works	1932	Cost at works
		Quantity		Quantity	
Bituminous coal -- Canadian . short ton		31,045	198,383	11,752	72,277
Bituminous coal -- Imported . short ton		131,888	815,923	48,892	297,568
Anthracite coal ..... short ton		2,400	20,335	1,142	8,495
Lignite coal -- Canadian . short ton		2,505	10,486	3,082	8,808
Lignite coal -- Imported . short ton		47	300	1,543	9,265
Coke ..... short ton		1,549	12,713	596	4,386
Gasoline (exclusive of motor vehicles) ..... Imp. gal.		33,470	7,306	11,246	2,677
Fuel oil ..... Imp. gal.		156,226	16,023	15,614	1,869
Wood ..... cord		34,353	148,447	15,764	61,149
Natural gas ..... M cu.ft.		523,252	15,693	178,650	6,280
Electricity purchased ..... K.W.H.		17,660,875	240,365	6,386,134	106,783
Other ..... xxx		...	464	...	246
TOTAL ..... xxx		...	1,486,438	...	579,803

Table 3 - Power Employed in the Domestic Clay Products Industry in Canada, 1931 and 1932.

	1	9	3	1	1	9	3	2
	Number of		Total horse		Number of		Total horse	
	units		power		units		power	
Steam engines and steam turbines .....	85		7,103		76		5,906	
Gasoline, gas and oil engines .....	50		1,520		41		1,542	
Hydraulic turbines or water wheels ....	...		...		3		125	
Total Primary Power .....	135		8,623		120		7,573	
Electric motors operated by purchased power .....	553		19,653		461		15,833	
Total Power Employed .....	688		28,276		581		23,406	
Electric motors run by primary power in same plant .....	15		539		11		302	
Total Electric Power .....	568		20,192		472		16,135	
Boilers .....	86		7,488		79		7,233	

Table 4 - Production of Domestic Clay and Clay Products in Canada, 1931 and 1932.

Products	SALES				SHIPMENTS			
	1	9	3	1	1	9	3	1
	Quantity		\$		Quantity		\$	
Brick -								
Soft mud process - Face .....	M	5,476	116,316		6,188		108,582	
Common .....	M	41,177	619,357		12,801		182,372	
Stiff mud process - Face .....	M	77,135	1,752,947		30,197		664,756	
Common .....	M	81,930	1,205,464		40,753		638,922	
Dry press - Face .....	M	20,149	423,357		5,522		119,547	
Common .....	M	8,688	107,213		4,248		46,762	
Fancy or ornamental brick (including special shapes, embossed and enamelled brick) .....	M	335	20,773		125		6,237	
Sewer brick .....	M	2,253	43,692		643		12,156	
Paving brick .....	M	19	682		6		155	
Firebrick .....	M	2,248	107,597		1,580		71,757	
Fireclay .....	ton	1,233	14,857		990		11,826	
Bentonite .....	ton	187	935		7		176	
Fireclay blocks and shapes .....	xxx	...	83,039		...		75,209	
Structural tile -								
Hollow blocks (including fire-proofing and load-bearing tile) ..	ton	105,635	1,046,634		48,118		421,672	
Roofing tile .....	No.	6,935	720		48,939		3,900	
Floor tile (quarries) .....	Sq. ft.	107,499	31,415		94,316		21,502	
Drain tile .....	M	12,518	328,410		7,385		186,670	
Sewer pipe (including copings, flue linings, etc.) .....	xxx	...	1,508,803		...		813,224	
Pottery, glazed or unglazed .....	xxx	...	257,125		...		244,861	
Other clay products .....	xxx	...	171,952		...		19,932	
TOTAL .....	xxx	...	7,841,288		...		3,650,218	

The consumption of clay in the Canadian paper industry during 1931 totalled 11,484 tons valued at \$173,660 as compared with 13,024 tons worth \$218,423 in 1930. Complete data for 1932 are not yet available.

Table 5 - Melting Points of Ceramic Materials (From "Silica and Firebrick Manufacturers" by John G. Stein &amp; Co. Ltd., Bonnybridge, Scotland)

Compound	Melting Point °C.	Compound	Melting Point °C.
Alumina ..... $\text{Al}_2\text{O}_3$	2050	Fluorspar ..... $\text{CaF}_2$	1360
Antimony Oxide ..... $\text{Sb}_2\text{O}_3$	656	Kaolinite $\text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2 \cdot 2\text{H}_2\text{O}$	1785
Arsenious Oxide ..... $\text{As}_2\text{O}_3$	275	Lead Oxide (Litharge). $\text{PbO}$	888
Beryllium Oxide ..... $\text{BeO}$	2525	Lithium Carbonate ..... $\text{Li}_2\text{CO}_3$	618
Bauxite ..... $\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$	2035	Lithium Nitrate ..... $\text{LiNO}_3$	255
Boric Oxide ..... $\text{B}_2\text{O}_3$	290	Manganese Oxide ..... $\text{MnO}$	1650
Calcium Oxide ..... $\text{CaO}$	2572	Magnesia ..... $\text{MgO}$	2800
Cerium Oxide ..... $\text{CeO}_2$	1950	Potassium Carbonate .. $\text{K}_2\text{CO}_3$	891
Chromium Oxide ..... $\text{Cr}_2\text{O}_3$	2140	Potassium Nitrate .... $\text{KNO}_3$	333
Chromite ... $\text{Cr}_2\text{O}_3$ ... $\text{FeO}$	2180	Potassium Sulphate ... $\text{K}_2\text{SO}_4$	1067
Cuprous Oxide ..... $\text{Cu}_2\text{O}$	1235	Sodium Carbonate ..... $\text{Na}_2\text{CO}_3$	851
Cupric Oxide ..... $\text{CuO}$	1026	Sodium Chloride ..... $\text{NaCl}$	804
Cyanite ..... $\text{Al}_2\text{O}_3 \cdot \text{SiO}_2$	1545	Sodium Nitrate ..... $\text{NaNO}_3$	308
Diaspore ..... $\text{Al}_2\text{O}_3 \cdot \text{H}_2\text{O}$	2035	Sodium Sulphate ..... $\text{Na}_2\text{SO}_4$	884
Feldspars		Silica ..... $\text{SiO}_2$	
Orthoclase $\text{K}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 6\text{SiO}_2$	1170	Quartz .....	1470
Plagioclase (anorthite) $\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2$	1550	Cristobalite .....	1713
Ferric Oxide ..... $\text{Fe}_2\text{O}_3$	1565	Tridymite .....	1670
Ferrous Oxide ..... $\text{FeO}$	1370	Titanium Dioxide ..... $\text{TiO}_2$	1640
		Zirconia ..... $\text{ZrO}_2$	2700

## List of Factories which Shipped Brick, Tile and Sewer Pipe Made from Domestic Clays, 1932.

Name of Firm	Head Office Address	Plant Location
<b>NOVA SCOTIA</b>		
Brooks, Stephen & Sons	Box 359, New Glasgow	New Glasgow
Miller, Jas.	Elmsdale	Barney Brook
Shaw, I. E., Ltd.	137 Lower Water St., Halifax	Avonport, Lantz Siding, and Pugwash
Standard Clay Products Ltd.	St. Johns, P.Q.	New Glasgow
<b>NEW BRUNSWICK</b>		
Little River Brick Co. Ltd.	Little River	Little River
Ryan, M., & Son Ltd.	Woodstock Rd., Fredericton	Fredericton
Shaw, I. E., Ltd.	137 Lower Water St., Halifax, N.S.	Chipman
Tondreau, J. A.	Bathurst	Bathurst

List of Factories which Shipped Brick, Tile and Sewer Pipe Made from Domestic Clays,  
1932. continued

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Plant Location</u>
<u>QUEBEC</u>		
Ascot Tile & Brick Co. Ltd.	Ascot Corner	Ascot Corner
Bégin & Fils, Ltée.	R. R. 1, St. Sauveur	St. Sauveur
Brique de Chicoutimi Ltd.	Chicoutimi	Chicoutimi
Brique Frontenac Ltd.	140 rue St. Jean, Quebec	Beauport Est
Brique Scott, Inc.	8 rue St. Joseph, Quebec	Scott Junction
Briqueterie Lotbinière Ltd.	Deschailions	Deschailions
Citadel Brick Ltd.	14 St. Joseph St., Quebec	Boischatel and L'Islet
Cooksville Co. Ltd.	820 Transportation Bldg., Montreal	Delson
Duquette & Lacroix	East Angus	East Angus
Granby Brick Co.	Granby	Granby
Hodgins, David T.	Shawville	Clarendon Tp.
Industrielle de St. Tite Ltd.	St. Tite	St. Tite
Laprairie Co. Inc.	606 Cathcart St., Montreal	Laprairie and Delson
Mathieu, Amédée	Victoriaville	Victoriaville
Montreal Terra Cotta Co. Ltd.	Dominion Square Bldg., St. Catherine St. W., Montreal	Lakeside
Panet, Cie de Briques Ltd.	L'Islet	L'Islet Station
St. Lawrence Brick Co. Ltd.	1010 St. Catherine St. W., Montreal	Laprairie
Standard Clay Products Ltd.	St. James St., St. Johns	St. Johns
<u>ONTARIO</u>		
Baird, Oliver, Estate	Parkhill	Parkhill
Barnhardt, W. H.	Stratford	Stratford
Batchelor, Samuel	Proton Station	Artemesia Tp.
Booth Brick & Lumber Co.	Horner Ave., New Toronto	York Co.
Brampton Pressed Brick Co. Ltd.	Brampton	Brampton
Broadwell, B., & Son	Kingsville	Gosfield South Tp.
Butwell, Richard	107 Lake Shore Rd., Humber Bay	Humber Bay
Caledon Shale Brick Co. Ltd.	1167 Bay St., Toronto	Credit Forks
Canadian Pressed Brick Co. Ltd.	195 Ottawa St., S., Hamilton	Hamilton
Casemore, R., & Son	Shallow Lake	Shallow Lake
Chapman Bros.	145 Dawes Rd., Toronto	East York Tp.
Chapman, John	R. R. 3, Napanee	N. Fredericksburg
Cooksville Co. Ltd.	Room 802 - 120 St. James St. W., Montreal	Cooksville and Cheltenham
Coultis, Geo. & Son	Thedford	Bosanquet Tp.
Cowell, Geo. W.	Box 361, Tillsonburg	Orford Co.
Crang Booth Ltd.	Horner Ave., New Toronto	North York Co.
Curtin, Frank	R. R. 4, Lindsay	Victoria Co.
Curtis Bros.	Box 809, Peterboro	Otonabee Tp.
Dalton, Mark	R. R. 3, Dresden	Lambton Co.
Deller, Albert, & Son	Brownsville	Dersham Tp.
Deller Bros.	R. R. 2, Norwich	North Norwich
Deller, Wm. H.	R. R. 4, Thorndale	W. Missouri
Demison Tile Co. Ltd.	Dougall Road, Windsor	Belle River, Fletcher and Tilbury
Department of Provincial Secretary	Parliament Bldgs., Toronto	Mimico

List of Factories which Shipped Brick, Tile and Sewer Pipe Made from Domestic Clays,  
1932. continued.

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Plant Location</u>
<u>ONTARIO - continued</u>		
Dochart Brick, Tile & Terra Cotta Works	Arnprior	Arnprior
Dolan, John & Sons	R. R. 2, Watford	Warwick
Donaldson, Thos. Geo.	R. R. 1, Greenock	Culross Tp.
Douglas & Douglas	Wilkesport	Sombra T.
Dover Brick & Tile Works	20 - 7th St., Chatham	Dover Tp.
Elliott, Chas.	Bluevale	Turnberry
Elliott, James, Jr.	519 Wellington St. W., Sault Ste. Marie	Korah Tp.
Elliott, Wm.	Glenannan	Culross Tp.
Fort William Brick Co.	509 Victoria Ave., Fort William	Fort William
Frid Bros. Ltd.	Main W. and Macklin Sts., Hamilton	Hamilton
Gammage, C. R.	R. R. 2, Dresden	Dresden
Grimsby Brick & Tile Ltd.	Grimsby	Grimsby
Haist, Wellington	Crediton	Stephen Tp.
Hallat, Wm., Clay Products Ltd.	Chatham	Chatham
Halton Brick Co. Ltd.	87 Brookdale Ave., Toronto	Halton Co.
Hamilton Pressed Brick Co. Ltd.	Kensington Ave. S., Hamilton	Wentworth Co.
Hill, A. W.	R. R. 1, Coatsworth	Tilbury E.
Hitch, D. A.	Erie St. N., Ridgetown	Ridgetown
Hodder, Mrs. J. H., & Sons	Dutton	Dunwich
Houston Co. Ltd.	Box 130, Belleville	Tweed
Howlett, F. W., & Sons Ltd.	Box 3, Petrolia	Petrolia and Brigden
Huntsville Brick Works	Box 308, Huntsville	Chaffey Tp.
Interprovincial Brick Co. Ltd.	Room 802 - 120 St. James St. W., Montreal	Cheltenham and Milton
Jackson, W. B.	290 Rawden St., Brantford	Brantford
Janes, D. A.	Mt. Brydges	Caradoc Tp.
Jamieson Lime Co.	Renfrew	Renfrew
Jasperson Brick & Tile Co.	Box 586, Kingsville	Coatsworth
Jervis, W. J.	R. R. 3, Dorchester	N. Dorchester
Johnston, James, Estate	R. R. 3, Pembroke	Stafford Tp.
Kerr, Chas., & Son	R. R. 4, Goderich	Colborne Tp.
Koebel Bros.	Box 54, St. Clements	Wellesley Tp.
Lindsay, Earl, & Sons	R. R. 2, Wallaceburg	Chatham Gore Tp.
London Pottery Mfg. Co.	95 Rectory St., London	London
McComb, Chester	R. R. 2, London	London Tp.
McCormick Bros.	R. R. 5, Watford	Warwick Tp.
McEachran, H., & Son	Highgate	Orford Tp.
McFarlane, W. J.	Forest	Forest
McFarren, F. B., Ltd.	18 Toronto St., Toronto	Streetsville
Milton Brick Ltd.	1158 Bay St., Toronto	Streetsville and Milton
Moulton, John	R. R. 2, Holyrood	Greenock Tp.
National Fire Proofing Co. Ltd.	211 Dominion Bank Bldg., Toronto, 2.	Aldershot
National Sewer Pipe Co. Ltd.	Aldershot	Hamilton, Mimico and Swansea.
New Liskeard Brick Works	Box 74, New Liskeard	New Liskeard
O'Reilly, Thos. E.	320 Bay St., Ottawa	Prescott Highway
Ott Brick & Tile Co. Ltd.	16 Andrew St., Kitchener	Kitchener

List of Factories which Shipped Brick, Tile and Sewer Pipe Made from Domestic Clays,  
1932, continued.

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Plant Location</u>
<u>ONTARIO - concluded</u>		
Ottawa Brick & Terra Cotta Co. Ltd.	Billings Bridge	Billings Bridge
Owen Sound Brick Co. Ltd.	928 Second Ave. E., Owen Sound	Owen Sound
Paxton, Fred R.	70 Herrick Ave., St. Catharines	St. Catharines
Phinn Brick Co.	St. James Park P.O., London	Westminster Tp.
Phippen, H.W., & Son	Box 11, Coleman P.O.	East York Tp.
Port Rowan Brick & Tile Co.	Port Rowan	Port Rowan
Price and Smith	458 Greenwood Ave., Toronto	Toronto
Richardson, J., and Son	Kerwood	Kerwood
Rollins, D. W.	239 Dundas St., Belleville	Thurlow Tp.
Russell Brick Co.	40 Blake St., Toronto	Toronto
Snelgrove, A.	Box 26, Beaverton	Thorah Tp.
Standard Brick Co. Ltd.	500 Greenwood Ave., Toronto	Toronto
Sproat & Sproat	R. R. 4, Seaforth	Tuckersmith Tp.
Stroh, M. C.	Conestogo	Conestogo
Sun Brick & Tile Co. Ltd.	1104 Bay St., Toronto	Todmorden
Superior Brick & Tile Co. Ltd.	426 Victoria Ave., Fort William	Roslyn Village
Thompson, Ralph	Henfryn	Grey Tp.
Tope, Richard, Brick Works	677 Main St. W., Hamilton	Hamilton
Toronto Brick Co.	897 Bay St., Toronto	Milton, Todmorden, Toronto
Vernon Brick Works	Dawes Road P.O.	East York Tp.
Wagstaff, Chas.	R. R. 4, Lindsay	Lindsay St.S.
Wallace, R., & Son	Toronto General Trusts Corp., 253 Bay St., Toronto	Widdifield Tp.
Weitzel, John E.	R. R. 1, Tavistock	East Zorra Tp.
Winch, Stuart A.	Paisley	Paisley
Wright, George, & Sons	Box 56, Comber	Comber
<u>MANITOBA -</u>		
Alsip Brick, Tile & Lumber Co. Ltd.	537 Portage Ave., Winnipeg	Winnipeg
Marion Brick Co.	Box 30, St. Boniface	St. Boniface
Snyder Brick Yards Ltd.	Portage La Prairie	Portage La Prairie
<u>SASKATCHEWAN</u>		
Bruno Clay Works Ltd.	405 Birks Bldg., Saskatoon	Bruno
Dominion Fire Brick & Clay Products Ltd.	Kern Bldg., Moose Jaw	Claybank
International Clay Products Ltd.	Estevan	Estevan and Prince Albert
Shand Coal & Brick Co.	Shand	Shand
Yorkton Brick Co.	7th Avenue, Yorkton	Yorkton
<u>ALBERTA -</u>		
Acme Brick Co. Ltd.	125 Alberta Block, Edmonton	Cannell Siding
Alberta Clay Products Ltd.	Box 672, Medicine Hat	Medicine Hat
Gunderson Brick & Coal Co. Ltd.	Redcliff	Redcliff
Little, J. B., & Sons Ltd.	9120 - 100th Ave., Edmonton	Edmonton
Medicine Hat Brick & Tile Co. Ltd.	Medicine Hat	Medicine Hat
Redcliff Premier Brick Co. Ltd.	Redcliff	Redcliff
Redcliff Pressed Brick Co. Ltd.	Box 87, Redcliff	Redcliff

List of Factories which Shipped Brick, Tile and Sewer Pipe Made from Domestic Clays, 1932, concluded.

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Plant Location</u>
<u>BRITISH COLUMBIA -</u>		
Baker Brick & Tile Co. Ltd.	3191 Douglas St., Victoria	Victoria
B. C. Refractories Ltd.	660 Taylor St., Vancouver	Princeton and Williams Lake
Clayburn Co. Ltd.	850 West Hastings St., Vancouver	Kilgard
Enderby Brick & Tile	Salmon Arm	Enderby
Gabriola Shale Products Ltd.	Moody Block, Victoria	Gabriola Island
Haug, Wm. & Son	Box 166, Kelowna	Kelowna
Port Haney Brick Co. Ltd.	846 Howe St., Vancouver	Port Haney
Prince George Brick Yard	Prince George	Prince George
Vancouver Brick & Tile Co. Ltd.	2521 Maple St., Vancouver	Sullivan Station
Victoria Brick Co. Ltd.	3001 Douglas St., Victoria	Victoria

Canadian Producers of Stoneware and Pottery from Domestic Clays, 1932.

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Plant Location</u>
<u>NEW BRUNSWICK -</u>		
Foley Pottery Ltd.	P. O. Box 4, Saint John	Saint John
<u>ONTARIO -</u>		
Foster Pottery Co.	Main St. W., Hamilton	Hamilton
<u>ALBERTA -</u>		
Medalta Potteries Ltd.	Industrial Ave., Medicine Hat	Medicine Hat
<u>BRITISH COLUMBIA -</u>		
B. C. Clay Products Co.	3439 Euclid Ave., Vancouver	Vancouver.

2. Production from Imported Clays

Sixteen factories in Canada made ceramic products in 1932 from clays which they imported, chiefly from England and United States. High tension porcelain insulators were made in 2 works, other electrical porcelains in 3, sanitary earthenware in 2, pottery in 2, firebrick and stove linings in 5, sewer pipe in 2, and floor tile in 1 plant. Twelve of the factories were in Ontario and 4 in Quebec.

Employees in 1932 numbered 715 and their receipts in salaries and wages amounted to \$707,269. Capital employed was reported at \$4,207,767.

Table 6 - Principal Statistics of the Imported Clay Products Industry, by Provinces, 1931 and 1932.

Provinces	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of materials at works	Selling value of products at works	Value added by manufacturing
		\$		\$	\$	\$	\$
<u>1931</u>							
Quebec ...	4	2,150,763	275	349,424	191,920	787,858	595,938
Ontario ..	10	2,169,619	557	609,476	503,786	1,667,880	1,164,094
CANADA .	14	4,320,382	832	958,900	695,706	2,455,738	1,760,032
<u>1932</u>							
Quebec ...	4	1,952,474	227	275,858	115,586	682,863	567,277
Ontario ..	12	2,255,293	488	431,411	290,855	907,548	616,693
CANADA .	16	4,207,767	715	707,269	406,441	1,590,411	1,183,970

Table 7 - Capital Employed in the Imported Clay Products Industry, by Classes and by Provinces, 1931 and 1932.

Provinces	Capital employed as represented by:				TOTAL
	Value of lands, buildings, fixtures, machinery and tools, and other equipment	Inventory value of materials on hand, stocks in process, fuel and miscellaneous supplies on hand	Inventory value of finished products on hand	Operating capital (cash, bills and accounts receivable, prepaid expenses, etc.)	
	\$	\$	\$	\$	\$
<u>1931</u>					
Quebec ...	1,578,298	127,447	142,533	302,485	2,150,763
Ontario ...	1,240,987	263,928	165,562	499,142	2,169,619
CANADA ..	2,819,285	391,375	308,095	801,627	4,320,382
<u>1932</u>					
Quebec ...	1,445,582	95,546	200,361	210,985	1,952,474
Ontario ..	1,456,332	222,775	244,650	331,536	2,255,293
CANADA .	2,901,914	318,321	445,011	542,521	4,207,767

Table 8 - Employees, Salaries and Wages in the Imported Clay Products Industry, by Provinces, 1931 and 1932.

Provinces	Average number of employees:					Salaries and Wages		
	On salaries		On wages		TOTAL	Salaries	Wages	TOTAL
	Male	Female	Male	Female				
						\$	\$	\$
<u>1931</u>								
Quebec ...	24	3	242	6	275	66,013	283,411	349,424
Ontario ..	45	14	420	78	557	160,754	448,722	609,476
CANADA .	69	17	662	84	832	226,767	732,133	958,900
<u>1932</u>								
Quebec ...	28	3	190	6	227	80,160	195,698	275,858
Ontario ..	46	12	351	79	488	132,969	298,442	431,411
CANADA .	74	15	541	85	715	213,129	494,140	707,269

Table 9 - Wage-Earners, By Months, in the Imported Clay Products Industry, 1931 and 1932.  
(On 15th of each month or nearest representative date)

Months	1931			1932		
	Male	Female	TOTAL	Male	Female	TOTAL
January .....	676	83	759	652	85	737
February .....	691	81	772	661	94	755
March .....	705	75	780	661	104	765
April .....	716	79	795	647	98	745
May .....	691	79	770	565	97	662
June .....	685	82	767	595	88	683
July .....	657	91	748	569	87	656
August .....	658	88	746	551	88	639
September .....	641	85	726	466	74	540
October .....	633	83	716	422	70	492
November .....	589	78	667	340	63	403
December .....	613	81	694	334	64	398
AVERAGE .....	662	84	746	541	85	626

Table 10 - Fuel and Electricity Used in the Imported Clay Products Industry, 1931 and 1932.

Kinds	Unit of measure	1931		1932	
		Quantity	Cost at works	Quantity	Cost at works
			\$		\$
Coal, anthracite .....	short ton	18	283	12	180
Coal, bituminous - Canadian ..	short ton	4,507	27,549	1,672	10,616
Coal, bituminous - Imported ..	short ton	12,587	75,415	10,800	66,914
Coke .....	short ton	378	3,375	595	4,473
Gasoline .....	Imp. gal.	...	...	82	21
Kerosene .....	Imp. gal.	237	41	120	20
Fuel oil .....	Imp. gal.	291,415	25,384	462,518	30,733
Wood .....	cord	17	132	38	283
Gas, natural .....	M cu.ft.	23,501	11,380	14,999	7,448
Other fuel .....	xxx	...	165	...	54
Electricity purchased .....	K.W.H.	2,070,273	33,178	1,406,744	23,037
TOTAL .....	xxx	...	176,902	...	143,779

Table 11 - Power Employed in the Imported Clay Products Industry, 1931 and 1932.

	1931		1932	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines .....	3	375	3	465
Gasoline, gas and oil engines ....	1	4	1	4
Total Primary Power .....	4	379	4	469
Electric motors run by purchased power .....	158	1,040	161	1,082
Total Power Employed .....	162	1,419	165	1,551
Electric motors run by primary power in same plant .....	22	298	20	235
Total Electric Power .....	180	1,338	181	1,317
Boilers .....	13	848	14	863

Table 12 - Materials Used in the Imported Clay Products Industry, 1931 and 1932.

Materials		1931			1932		
		Quantity	Cost at works	Quantity	Cost at works		
			\$		\$		
Clay .....	ton	7,137	144,914	5,517	103,204		
Feldspar .....	ton	1,885	34,394	1,406	28,043		
Fireclay .....	ton	22,075	145,856	14,961	83,865		
Flint .....	ton	1,419	27,853	1,136	18,277		
Glazing materials .....	xx	...	9,912	...	6,175		
Hardware .....	xx	...	219,688	...	38,609		
Containers .....	xx	...	60,023	...	28,537		
All other materials .....	xx	...	53,066	...	99,731		
TOTAL .....	xx	...	695,706	...	406,441		

Table 13 - Products Made in the Imported Clay Products Industry, 1931 and 1932.

Products	1931			1932		
	Selling value at works			Selling value at works		
			\$			\$
Firebrick and stove linings .....			280,538			212,838
Porcelain insulators, sanitary ware, sewer pipe, floor tile, tanks, pottery, etc. ....			2,175,150			1,377,573
TOTAL .....			2,455,738			1,590,411

NOTE: Firebrick, floor tile, sewer pipe and pottery are also made in Canada from domestic clays. See Table 3.

List of Firms which Made Products from Imported Clays, 1932

Name of Firm	Location of Plant	Products Made
Bell Fire Brick Co. Ltd.	1347 Dufferin St., Toronto, Ont.	Firebrick; stove linings.
Canada Firebrick Company Ltd.	4741 St. Ambroise St., Montreal, P.Q.	Firebrick.
Canada Vitrified Products Ltd.	675 Talbot St., St. Thomas, Ont.	Sewer pipes; firebrick; flue lining.
Canadian General Electric Co. Ltd.	Peterborough, Ont.	Porcelain sockets, plugs, etc.; textile parts; rubber plugs; insulators.
Canadian Ohio Brass Co. Ltd.	Niagara Falls, Ont.	High tension insulators.
Canadian Porcelain Co. Ltd.	Paradise Road, Hamilton, Ont.	High tension insulators.
Canadian Potteries Ltd.	St. Johns, P.Q.	Sanitary earthenware; soda fountain fixtures; bathroom accessories.
Dominion Sanitary Pottery Co. Ltd.	St. Johns, P.Q.	Sanitary earthenware; tanks.
Frontenac Floor and Wall Tile Co. Ltd.	Kingston, Ont.	Floor tile.
Hamilton Potteries Ltd.	100 Locke St. S., Hamilton, Ont.	Insulators; firebrick pottery; miscellaneous products.
National Refractories Ltd.	Port Robinson, Ont.	Firebrick.
Smith & Stone Ltd.	Georgetown, Ont.	Porcelain sockets, plugs, etc.; insulators.
Smith Potteries, The	373 King St. W., Oshawa, Ont.	Art pottery.
Standard Clay Products Ltd.	St. Johns, P.Q.	Sewer pipes; firebrick; stove linings.
Turner, C.B.	Mimico, Ont.	Boiler lining; fire-

## Imports into Canada and Exports of Clay and Clay Products, 1931 and 1932.

Imports, 1901 and 1902.													
					1	9	3	1		1	9	3	2
					Quantity			\$		Quantity			\$
<b>IMPORTS</b>													
Building brick .....					xx	...		204,903		...			41,163
Building blocks .....					xx	...		75,276		...			15,682
Clays - China .....					cwt.	366,926		192,516		346,270			154,125
Fire .....					cwt.	887,033		167,893		385,956			101,768
Pipe .....					xx	...		16,804		...			18,308
Other clays, n.o.p. ....					xx	...		152,270		...			182,258
Zirconium silicate .....					xx	...		3,122		...			1,252
Zirconium oxide .....					xx	...		7,999		...			4,574
Drain tile, unglazed .....					xx	...		2		...			317
Drain, sewer pipe and earthenware fittings therefor, chimney linings or vents, chimney tops or inverted blocks, glazed or unglazed .....													
					xx	...		53,128		...			10,856
Tiles or blocks of earthenware or stone prepared for mosaic flooring .....					xx	...		178,099		...			41,433
Tiles, earthenware, n.o.p. ....					xx	...		378,099		...			151,003
Insulators, electric, porcelain .....					xx	...		231,206		...			170,908
Pottery and chinaware .....					xx	...		3,637,530		...			3,236,055
Brick, fire, other, valued at not less than \$100 per M, rectangular shaped; the dimensions of each not to exceed 125 cubic inches for use exclusively in the construction or repair of a furnace, kiln, etc. ....													
					xx	...		60,420		...			48,133
Brick, fire, n.o.p., for use exclusively in the construction or repair of a furnace, kiln, or other equipment of a manufacturing establishment .....													
					xx	...		711,410		...			384,250
Firebrick, n.o.p. ....					xx	...		41,382		...			37,173
Firebrick, chrome .....					xx	...		48,230		...			9,848
Magnesite brick .....					xx	...		152,435		...			71,077
Silica brick (containing not less than 90 per cent silica) .....					xx	...		234,909		...			122,952
Paving brick .....					xx	...		84,326		...			14,446
Other clay manufactures .....					xx	...		996,899		...			588,169
TOTAL .....					\$	...		7,628,858		...			5,405,750

## EXPORTS

Building brick	M	1,085	21,144	535	8,011
Clay - Unmanufactured	Cwt.	8,015	4,161	3,031	895
Manufactures	xx	...	25,736	...	13,436
Earthenware	xx	...	33,745	...	33,391
Porcelain insulators	xx	...	333,742	...	140,761
TOTAL	xx	...	418,528	...	196,494





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