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MINING, METALLURGICAL & CHEMICAL STATISTICS

THE

PRIMARY IRON AND STEEL INDUSTRY

IN

CANADA

1945

(including pig iron, ferro-alloys, steel ingots  
and steel castings, rolled iron  
and steel products.)



OTTAWA

1947

Price 25 Cents



Dominion Statistician:

Director - Division of Census of Industry and Merchandising:

Chief - Mining, Metallurgical and Chemical Statistics:

Herbert Marshall  
W. H. Loses  
H. McLeodANNUAL INDUSTRY REPORTIRON AND STEEL AND THEIR PRODUCTS GROUPTHE PRIMARY IRON AND STEEL INDUSTRY, 1945

Statistics for the Primary Iron and Steel Industry include data for all establishments in Canada which were engaged chiefly in the manufacture of (a) pig iron, (b) ferro-alloys, (c) steel ingots and steel castings, (d) hot rolled iron and steel products, (e) cold rolled or cold drawn steel bars, strips and shapes. Forty-seven firms were included in this industry in 1945 and reports were received for 63 different plants or departments, including 4 blast furnace departments, 4 ferro-alloy plants, 37 steel furnace divisions, and 18 rolling or drawing mills. Separate reports were received for blast furnace departments, for steel furnace divisions and for rolling mills even when all three were units of a single works.

Factory sales of pig iron, ferro-alloys, steel ingots and castings and finished rolled products were 9.5 per cent lower in 1945 than in 1944, the values being \$192,279,159 and \$212,509,681 respectively. Twenty-seven works in Ontario accounted for 67 per cent of the total for Canada or \$129,796,623; 6 plants in Nova Scotia accounted for 13 per cent or \$24,418,793; 16 plants in Quebec for 17 per cent or \$32,797,360; while the remaining \$5,266,383 or 3 per cent was accounted for by 4 plants in Manitoba, 7 in British Columbia and 3 in Alberta.

In 1945 an average of 29,378 people were employed in this industry, this being a decrease of 4.5 per cent from the 1944 average of 30,763. About 1,649 persons worked in the blast furnace departments during the year, 11,494 in the steel furnaces, 14,511 in the rolling mills and 1,724 in ferro-alloy plants (exclusive of those producing ferro-alloys as a by-product). Fifty-eight per cent of the employees, or 17,007 worked in plants in Ontario, 5,745 in Quebec, 5,421 in Nova Scotia, 698 in Manitoba and 507 in Alberta and British Columbia.

Payments in salaries and wages during 1945 amounted to \$57,862,489 a decrease of 4.9 per cent from the previous year's total of \$60,837,031. Salaries advanced to \$6,464,082 from \$6,408,337 and wages declined to \$51,398,407 from \$54,428,694.

Materials used in manufacturing processes cost \$86,417,375 in 1945 compared with \$92,214,866 in 1944 and the cost of fuel and electricity was \$16,002,441 against \$17,276,424 a decreased expenditure of 7.4 per cent for materials, fuel and power.

Pig Iron - Output of 1,777,949 net tons of pig iron in 1945 was 4 per cent less than 1,852,628 tons reported for the previous year. Production of basic iron amounted to 1,420,205 tons or 80 per cent of the total; foundry iron amounted to 198,244 tons and malleable iron to 159,500 tons.

Producers' sales of pig iron totalled 428,902 tons at \$9,527,026 in 1945 compared with 400,010 tons at \$8,641,495 in 1944.

Charges to iron blast furnaces during the year included 2,797,697 tons of imported iron ore, 235,757 tons of Canadian ore; 1,631,852 tons of coke; 516,931 tons of imported limestone and 240,247 tons of Canadian limestone.

Imports of pig iron during the calendar year decreased to 7,589 tons from 8,516 tons in 1944 and exports increased to 21,854 tons from 5,698 tons.

Producers' stocks of pig iron at the end of 1945 totalled 25,193 tons compared with 49,615 tons at the end of the previous year.

The apparent consumption of pig iron in Canada, as calculated by deducting the exports from the sum of the production and imports, and allowing for changes in producers' stocks, amounted to 1,788,106 tons in 1945 or 2.5 per cent less than in 1944 when the apparent domestic supply was 1,834,061 tons.

Producers of pig iron in Canada had 14 blast furnaces at the end of 1945 which could produce 2.7 million net tons a year if operated at rated capacity. Actual production of 1,777,949 net tons in 1945 showed an operating rate of about 66 per cent. Nine furnaces were in blast during the year.

Ferro-Alloys - Ferro-alloys were made in 1945 by 10 different concerns, 5 of which recovered ferro-silicon as a by-product in the manufacture of abrasives. Output of ferro-alloys in 1945 amounted to 178,109 net tons, an increase of 4 per cent from the 171,323 tons reported for 1944.

Altogether, ferrosilicon was made in nine different plants, spiegaleisen in two and ferrochrome in two. Other alloys produced by one firm only included ferromanganese, silicospiegel, silicomanganese, silicon metal, calcium silicon, calcium manganese silicon, ferrophosphorus, and zirconium alloy.

Steel Ingots and Castings - Steel production decreased 4.6 per cent to 2,877,927 tons in 1945, from 3,016,162 tons in 1944, the output of steel ingots going to 2,757,149 tons from 2,873,868 tons and steel castings to 120,778 tons from 142,294 tons. Factory sales of ingots and castings totalled 148,247 tons at \$28,121,723.

Thirty-seven steel plants were in operation during the year. At the end of 1945 these plants had 133 furnaces, including 49 basic open hearth with an annual capacity of 2,796,876 net tons, 81 electric furnaces rated at 755,496 tons, and 3 converters at 8,200 tons. There were just 11 makers of steel ingots with capacity of 3,206,290 net tons per annum. The total annual steel capacity of all plants, including ingots and castings, was 3,560,572 tons at the year end.

Operating steel furnaces in 1945 used 1,416,844 net tons of pig iron, 1,741,895 tons of scrap iron or steel, 106,614 tons of iron ore, 1,217,499 tons of limestone, 77,206 tons of dolomite, 64,294 tons of lime, 80,879 tons of silica sand, 17,016 tons of magnesite and 46,852 tons of ferro-alloys.

Rolled and Drawn Steel - In 1945 there were 18 mills occupied chiefly in hot rolling of steel products and 3 mills making only cold drawn and cold rolled shapes. Ten of these mills were in Ontario, 3 in Nova Scotia, 3 in Quebec, 1 in Manitoba and 1 in Alberta.

Rolling mill sales declined 8 per cent to \$133,385,310 from \$143,768,145 in 1944. The main items sold during the year under review were: 438,622 tons of hot rolled bars at \$31,680,209; 275,674 tons of plates at \$16,687,112; 213,050 tons of sheets, hoops, bands and strips at \$18,624,564; 340,250 tons of rails and rail fastenings at \$17,279,899; 300,418 tons of semi-finished rolled forms, such as blooms, billets, etc., at \$17,732,009; 190,050 tons of structural shapes at \$10,399,503; and 105,648 tons of wire rods at \$4,417,200.

Table 1 - Provincial Distribution of Active Plants in the Primary Iron and Steel Industry, 1945.

Province	Number of firms	Pig Iron		Steel Ingots and Castings		Rolling and drawing mills	Ferro- alloys (a)
		Number of plants	Number of blast furnaces	Number of plants	Number of steel furnaces		
Nova Scotia .....	4	1	4	2	17	3	...
Quebec .....	15	...	...	12	29	3	1
Ontario .....	17	3	10	11	74	10	3
Manitoba .....	3	...	...	3	5	1	...
Alberta .....	2	...	...	2	3	1	...
British Columbia .....	7	...	...	7	11	...	...
Canada .....	47 (b)	4	14	37 (c)	139 (d)	18	4

(a) Not including artificial abrasive plants which made ferrosilicon as a by-product.

(b) Some firms operate in more than one province.

(c) Includes 2 firms which ceased operations in July and September, 1945.

(d) Includes 6 furnaces which ceased operating in July and September 1945.

Table 2 - Principal Statistics of the Primary Iron and Steel Industry, 1935-1945

Year	Number of plants	Average number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
1935 .....	53	9,523	12,279,390	4,845,559	18,539,072	38,700,961
1936 .....	55	11,138	13,830,377	5,440,129	21,424,052	46,636,892
1937 .....	55	14,054	19,926,498	6,934,008	33,805,631	74,580,669
1938 .....	55	13,100	18,256,627	5,529,833	24,786,761	59,606,150
1939 .....	54	13,827	20,410,517	6,069,661	29,629,376	75,934,481
1940 .....	54	17,774	29,207,036	9,582,791	54,045,692	114,598,409
1941 .....	60	23,735	45,037,095	13,888,384	78,824,366	164,566,392
1942 .....	61	33,245	60,874,818	18,734,178	110,551,516	232,105,755
1943 .....	63	34,222	65,654,468	18,985,135	101,413,749	223,951,059
1944 .....	64	30,763	60,837,031	17,276,424	92,214,866	212,509,681
<u>1945</u>						
Nova Scotia .....	6	5,421	9,985,430	2,496,560	13,123,112	24,418,793
Quebec .....	16	5,745	11,348,835	2,358,053	10,301,898	32,797,360
Ontario .....	27	17,007	34,447,216	10,682,135	61,499,625	129,796,623
Manitoba .....	4	698	1,172,369	329,500	1,005,030	3,021,617
Alberta .....	3	216	340,812	56,165	275,368	936,250
British Columbia	7	291	567,827	80,028	212,342	1,308,516
Canada .....	63(x)	29,378	57,862,489	16,002,441	86,417,375	192,279,159
Per cent change						
1945 from 1944 . . .		- 4.5	- 4.9	- 7.4	- 6.3	- 9.5

Note: Profits or losses cannot be calculated from above figures as data are not available for general expense items, such as interest, rent, depreciation, taxes, insurance, advertising, etc.

(x) Includes 2 plants which ceased operations in July and September 1945.

Table 3 - Employees, Salaries and Wages, By Provinces, 1944 and 1945

Province	Average Number of Employees				Total			Total Salaries and wages	
	On Salaries		On Wages		Em- ployees	Salaries	Wages		
	Male	Female	Male	Female					
<u>1944</u>									
Nova Scotia .....	224	143	5,274	111	5,752	790,544	9,370,192	10,160,736	
Quebec .....	406	174	5,527	30	6,137	1,290,904	10,659,955	11,950,859	
Ontario .....	825	658	14,993	994	17,470	3,948,512	32,218,600	36,167,112	
Manitoba .....	40	15	658	7	720	173,911	1,034,732	1,208,643	
Alberta .....	17	4	232	...	253	52,648	375,686	428,334	
British Columbia ....	44	14	371	2	431	151,818	769,529	921,347	
Canada .....	1,556	1,008	27,055	1,144	30,763	6,408,337	54,428,694	60,837,031	
<u>1945</u>									
Nova Scotia .....	187	111	5,036	87	5,421	727,365	9,258,065	9,985,430	
Quebec .....	384	146	5,175	40	5,745	1,298,678	10,050,157	11,348,835	
Ontario .....	841	635	14,680	851	17,007	4,109,457	30,337,759	34,447,216	
Manitoba .....	42	13	637	6	698	184,193	988,176	1,172,369	
Alberta .....	8	4	204	...	216	23,472	317,340	340,812	
British Columbia ....	37	14	238	2	291	120,917	446,910	567,827	
Canada .....	1,499	923	25,970	986	29,583	6,464,082	51,398,407	57,862,489	

Table 4 - Wage-Earners, By Months, 1944 and 1945 (On the last work-day of each month)

Month	1 9 4 4			1 9 4 5		
	Male	Female	Total	Male	Female	Total
January .....	27,314	1,060	28,374	28,013	1,207	29,220
February .....	27,191	1,021	28,212	28,095	1,257	29,352
March .....	27,024	986	28,010	27,840	1,276	29,116
April .....	26,702	1,041	27,743	27,504	1,301	28,805
May .....	26,768	1,121	27,889	26,839	1,230	28,069
June .....	26,976	1,091	28,067	26,513	1,209	27,722
July .....	27,023	1,223	28,246	25,775	1,143	26,918
August .....	26,987	1,253	28,240	24,916	913	25,829
September .....	26,820	1,219	28,039	24,398	749	25,147
October .....	26,853	1,227	28,080	24,140	633	24,773
November .....	27,417	1,240	28,657	23,980	486	24,466
December .....	27,554	1,245	28,799	23,617	374	23,991
Average .....	27,055	1,144	28,199	25,970	986	26,956

Table 5 - Hours Worked By Wage-Earners, 1945 (In one week of month of highest employment; overtime included)

Hours worked per week	Number of Wage-Earners		Hours worked per week	Number of Wage-Earners	
	Male	Female		Male	Female
30 hours or less ....	1,216	114	55 hours .....	563	3
31-43 hours .....	3,794	312	56-64 hours .....	4,887	73
44 hours .....	1,325	69	65 hours or more ....	1,066	1
45-47 hours .....	1,977	131	Total .....	28,952	1,200
48 hours .....	10,350	440	Total wages paid in selected week .....	\$ 1,143,565	31,737
49-50 hours .....	1,132	16			
51-54 hours .....	2,642	41			

Table 6 - Fuel and Electricity Used, 1944 and 1945

Kind	Unit of measure	1 9 4 4			1 9 4 5		
		Quantity	Cost at works	\$	Quantity	Cost at works	\$
Bituminous coal - Canadian .....	ton	292,102	1,669,912		296,192	1,766,348	
Imported .....	ton	80,703	632,272		68,571	548,917	
Anthracite coal .....	ton	29,424	237,457		24,274	199,978	
Coke (for fuel only) .....	ton	52,565	184,473		55,853	202,234	
Gasoline .....	Imp.gal.	194,531	46,213		196,918	48,780	
Kerosene or coal oil .....	Imp.gal.	22,882	3,830		29,215	4,064	
Fuel oil .....	Imp.gal.	68,701,733	4,428,967		60,201,871	4,099,371	
Wood .....	cord	1,287	14,012		654	7,207	
Gas - Manufactured (x) .....	M cu.ft.	71,688,351	3,532,672		69,938,378	3,243,062	
Natural .....	M cu.ft.	348,215	67,045		297,812	58,465	
Other fuel .....	...	...	58,369		...	69,778	
Electricity purchased .....	K.W.H.	1,463,309,707	6,401,202	1,518,339,630		5,754,237	
Total .....	...	...	17,276,424		...	16,002,441	
Electricity generated for own use	K.W.H.	141,285,358	...	109,665,150		...	

(x) Includes blast-furnace gas and coke-oven gas which were used in iron and steel departments.

Table 7 - Power Equipment, 1944 and 1945

Kind	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power
<u>1944</u>				
Steam engines and steam turbines .....	80	59,198	33	6,101
Diesel engines .....	7	1,350	2	225
Gasoline, gas and oil engines .....	18	19,625	5	2,115
Hydraulic turbines or water wheels .....	3	1,150	1	150
Total Primary .....	108	81,323	41	8,591
Electric motors operated by purchased power	8,947	208,888	545	11,543
Total .....	9,055	290,211	586	20,134
Electric motors operated by power generated by above primary units .....	1,568	54,474	11	515
Stationary power boilers .....	105	50,015	11	3,400
Motor generator sets .....	138	68,791	5	1,240

1945

Steam engines and steam turbines .....	84	59,528	32	4,901
Diesel engines .....	7	1,350	1	95
Gasoline, gas and oil engines .....	18	19,625	6	2,240
Hydraulic turbines or water wheels .....	3	1,150	1	150
Total Primary .....	112	81,653	40	7,386
Electric motors operated by purchased power	9,135	231,030	788	11,840
Total .....	9,247	312,683	828	19,226
Electric motors operated by power generated by above primary units .....	1,591	55,095	10	315
Stationary power boilers .....	111	53,869	11	3,850
Motor generator sets .....	165	97,493	8	1,715

## (a) Pig Iron

Table 8 - Materials Charged to Iron Blast Furnaces, 1944 and 1945

Material	1944		1945	
	Quantity	Cost at furnace	Quantity	Cost at furnace
			Net tons	\$
Iron ore - Canadian (crude) .....	...	...	56,082	245,636
Imported (crude) .....	2,468,082	10,351,514	2,228,075	9,707,841
Canadian (beneficiated) .....	266,150	1,117,466	179,675	759,447
Imported (beneficiated) .....	758,957	3,293,806	569,622	2,484,705
Mill cinder, roll scale, flue dust, etc. ....	96,243	276,626	281,189	1,255,914
Scrap (net charge) .....	27,604	283,290	37,067	374,158
Limestone -				
From Canadian quarries .....	233,621	330,795	240,247	346,000
From foreign sources .....	520,571	889,501	516,931	699,477
Dolomite .....	57,822	96,857	39,418	56,520
Coke .....	1,687,967	15,518,097	1,631,852	15,447,205
Other materials .....	...	235,688	...	269,277
Total .....	...	32,393,640	...	31,646,180

Table 9 - Production of Pig Iron and Sales By Producers, 1944 and 1945

Grade	Delivered in molten condition	Machine Cast	Total tonnage made	Sales	
	Net tons	Net tons	Net tons	Quantity Net tons	Income from sales
<u>1944</u>					
Basic .....	1,375,586	158,554	1,534,140	89,879	1,846,009
Foundry .....	...	143,763	143,763	143,498	3,091,233
Malleable .....	...	174,725	174,725	166,633	3,704,253
Total .....	1,375,586	447,042	1,852,628	400,010	8,641,495
<u>1945</u>					
Basic .....	1,292,264	127,941	1,420,205	82,329	1,676,071
Foundry .....	...	198,244	198,244	195,371	4,195,823
Malleable .....	...	159,500	159,500	151,202	3,655,132
Total .....	1,292,264	485,685	1,777,949	428,902	9,527,026

Note: Silvery pig iron has been included with ferro-alloys.

Table 10 - Production of Pig Iron, By Grades, 1935 - 1945

Year	Basic	Foundry	Malleable	Total
1935 .....	524,433	69,769	77,658	671,860
1936 .....	594,640	95,248	69,731	759,619
1937 .....	808,316	118,059	80,343	1,006,718
1938 .....	624,487	90,818	74,772	790,078
1939 .....	734,227	80,314	31,877	846,418
1940 .....	1,091,584	120,875	96,640	1,309,099
1941 .....	1,272,171	115,791	140,091	1,528,053
1942 .....	1,646,001	159,724	169,289	1,975,014
1943 .....	1,456,549	148,653	153,067	1,758,269
1944 .....	1,534,140	143,763	174,725	1,852,628
1945 .....	1,420,205	198,244	159,500	1,777,949

Table 11 - Production of Pig Iron, By Provinces, 1935-1945

Year	Nova Scotia	Ontario	Total
1935 .....	232,962	438,898	671,860
1936 .....	288,006	471,613	759,619
1937 .....	358,756	647,961	1,006,718
1938 .....	270,879	519,199	790,078
1939 .....	290,232	556,186	846,418
1940 .....	441,741	867,358	1,309,099
1941 .....	421,296	1,106,757	1,528,053
1942 .....	467,951	1,507,063	1,975,014
1943 .....	345,722	1,412,547	1,758,269
1944 .....	395,802	1,456,826	1,852,628
1945 .....	374,302	1,403,647	1,777,949

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Table 12 - Production of Pig Iron, By Months, 1944-1945 (Net tons)

Month	1 9 4 4			1 9 4 5		
	For own use	For sale	Total	For own use	For sale	Total
January .....	97,703	34,425	132,128	122,002	33,967	155,969
February .....	102,961	38,917	141,878	118,457	31,030	149,487
March .....	127,192	40,855	168,047	120,404	45,413	165,817
April .....	129,681	40,683	170,364	119,962	36,108	156,070
May .....	132,597	42,610	175,207	120,561	35,013	155,574
June .....	123,158	38,741	161,899	121,012	38,034	159,046
July .....	136,868	29,136	166,004	111,122	39,265	150,387
August .....	120,079	31,373	151,452	107,129	32,683	139,812
September .....	112,144	33,262	145,406	96,585	38,642	135,227
October .....	120,427	33,692	154,119	97,155	43,538	140,693
November .....	117,678	29,294	146,972	94,745	39,906	134,651
December .....	111,351	27,801	139,152	106,714	28,502	135,216
Total .....	1,431,839	420,789	1,852,628	1,335,848	442,101	1,777,949

Table 13 - Sales of Pig Iron By the Producers, 1935-1945

Year	Tonnage sold	Income from sales	Year	Tonnage sold	Income from sales
	\$	\$		\$	\$
1935 .....	147,559	2,650,990	1940 .....	277,311	5,868,769
1936 .....	188,220	3,327,716	1941 .....	338,066	7,080,242
1937 .....	252,802	5,146,017	1942 .....	387,997	8,366,936
1938 .....	145,113	2,961,639	1943 .....	387,109	8,328,322
1939 .....	192,614	3,757,573	1944 .....	400,010	8,641,495
			1945 .....	428,902	9,527,026

Table 14 - Iron Ore, Fuel and Flux Charged to Iron Blast Furnaces, 1935-1945

Year	Iron ore	Mill cinder, scale, etc.	Scrap	Coke	Limestone	Dolomite
	Net tons	Net tons	Net tons	Net tons	Net tons	Net tons
1935 .....	1,163,942	61,901	34,400	577,355	278,469	
1936 .....	1,365,082	54,982	22,832	672,210	345,622	Not
1937 .....	1,796,562	134,299	18,443	890,384	470,549	
1938 .....	1,382,565	74,608	21,418	697,615	345,182	avail-
1939 .....	1,476,106	119,654	21,204	775,869	357,377	
1940 .....	2,342,717	130,171	28,591	1,223,173	579,451	able
1941 .....	2,709,089	136,698	47,271	1,362,530	648,565	
1942 .....	3,612,692	177,343	64,624	1,795,875	860,793	
1943 .....	3,258,451	125,477	43,032	1,646,191	785,938	32,064
1944 .....	3,493,189	96,243	27,604	1,687,967	754,192	57,822
1945 .....	3,033,454	281,189	37,067	1,631,852	757,178	39,418

Table 15 - Imports into Canada and Exports of Pig Iron, 1935-1945

	Imports		Exports	
	Net tons	\$	Net tons	\$
1935 .....	9,990	143,726	15,410	287,396
1936 .....	4,435	74,589	15,572	304,682
1937 .....	7,135	144,354	43,138	851,701
1938 .....	2,377	62,494	11,811	224,261
1939 .....	657	15,176	12,015	221,787
1940 .....	29,703	672,489	4,113	101,126
1941 .....	4,729	131,112	380	10,090
1942 .....	1,536	42,718	427	12,175
1943 .....	7,118	173,598	438	11,163
1944 .....	8,516	235,666	5,698	123,681
1945 .....	7,589	231,062	21,854	493,159

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Table 16 - Stocks of Pig Iron Held By Producers in Canada, 1935-1945

Year	Net Tons	Year	Net Tons
1935 .....	97,827	1941 .....	27,049
1936 .....	86,048	1942 .....	87,955
1937 .....	125,761	1943 .....	28,230
1938 .....	143,258	1944 .....	49,615
1939 .....	69,174	1945 .....	25,193
1940 .....	76,560		

Table 17 - Apparent Supply of Pig Iron in Canada, 1935-1945

Year	Production	Add imports	Deduct exports	Add or deduct changes in producers' stocks (xx)	Apparent supply (x)
1935 .....	671,860	9,990	15,410	- 24,314	.642,126
1936 .....	759,619	4,435	15,572	+ 11,779	760,261
1937 .....	1,006,718	7,135	43,138	- 39,713	931,002
1938 .....	790,078	2,377	11,811	- 17,497	763,147
1939 .....	846,418	657	12,015	+ 74,083	909,143
1940 .....	1,309,099	29,703	4,113	- 7,385	1,327,304
1941 .....	1,528,053	4,729	380	+ 49,511	1,581,913
1942 .....	1,975,014	1,536	427	- 60,906	1,915,217
1943 .....	1,758,269	7,118	438	+ 59,725	1,824,674
1944 .....	1,852,628	8,516	5,698	- 21,385	1,834,061
1945 .....	1,777,949	7,589	21,854	+ 24,422	1,788,106

(x) No allowance made for changes in consumers' stocks of which there is no record.

(xx) In this column the + indicates a decline in stocks or that this tonnage was released for consumption; the - sign indicates an increase in stocks or that this amount was withheld from consumption.

Table 18 - Consumption of Pig Iron in Canada, By Industries and By Provinces, 1942-1945 (as reported by consumers)

	1942	1943	1944	1945
(Net tons)				
<b>(a) By Industries</b>				
Steel ingots and castings .....	1,615,396	1,518,548	1,513,586	1,416,844
Iron castings .....	176,199	169,272	171,397	173,185
Boilers, tanks and platenwork ....	18,867	27,593	27,897	36,476
Agricultural implements .....	21,884	17,483	17,511	26,521
Machinery .....	23,449	21,011	21,170	22,149
Automobiles .....	6,545		5,197	5,197
Automobile parts .....	16,014	12,785	35,540	10,641
Railway rolling stock .....	25,517	24,518	31,638	28,234
Brass and copper products .....	2,247	1,461	1,104	2,170
Shipbuilding .....	743	1,233	1,749	3,488
Hardware and tools .....	2,548	1,966	2,205	3,223
Miscellaneous iron and steel ....	203	713	673	775
Heating and cooking apparatus ...	18,846	24,601	23,087	26,321
Electrical apparatus and supplies	2,148	2,150	2,954	4,426
Total .....	1,930,642	1,823,334	1,855,708	1,759,650
<b>(b) By Provinces</b>				
Prince Edward Island .....	40	65	80	97
Nova Scotia .....	441,813	384,528	393,008	393,291
New Brunswick .....	3,211	3,723	3,450	4,413
Quebec .....	67,255	73,992	73,022	101,107
Ontario .....	1,411,531	1,350,304	1,378,233	1,245,198
Manitoba .....	5,270	4,948	2,770	7,679
Saskatchewan .....	43	...	115	58
Alberta .....	177	120	76	164
British Columbia .....	1,302	5,654	4,954	7,643
Canada .....	1,930,642	1,823,334	1,855,708	1,759,650

Table 19 - Blast Furnaces in Canada, 1943-1945

Name of Company	Location of plants	Number of stacks	Total daily capacity (24 hours)	Number of days in blast		
				1943	1944	1945
Dominion Steel and Coal Corporation, Ltd.	Sydney, N.S.	1	616	180	329	365
		1	644	358	366	365
		1	370	16	128	...
		1	370	326	...	...
Total .....		4	2,000	...	...	...
Canadian Furnace Company, Limited	Port Colborne, Ont.	1	466	196 <sup>1(x)</sup>	313 <sup>1(x)</sup>	296 <sup>1(x)</sup>
		1	147	332	...	...
Total .....		2	613	...	...	...
The Steel Company of Canada, Limited	Hamilton, Ont.	1	364	347	342	364
		1	728	365	366	364
		1	980	365	363	364
Total .....		3	2,072	...	...	...
Algoma Steel Corporation, Limited	Sault Ste. Marie, Ont.	1	336	317	...	...
		1	336	277	...	...
		1	616	346	348	358
		1	504	346	218	200
		1	1,120	32	360	361
Total .....		5	2,912	...	...	...
Total for Canada .....		14	7,597	...	...	...

(x) For making pig iron; ferro-alloys also made in this furnace.

Table 20 - World Pig Iron (1) Production (Figures taken from "The Iron Age", published by McGraw-Hill Publishing Co. Ltd., New York, U.S.A.)

	1939	1940	1941	1942	1943	1944	1945	1946
	(Thousands of net tons)							
United States ....	35,396	46,979	56,070	60,115	61,895	62,073	53,200	45,450
Germany ....	20,363	17,136	23,561	24,506	26,718	20,990	4,400	2,024
Poland ....	...	...	85	106	118	76	65	799
Belgium ....	3,444	2,494	1,569	1,386	1,802	623	650	2,292
France ....	8,625	5,192	1,443	1,746	2,345	1,214	848	3,571
Luxemburg ....	1,962	...	...	...	...	...	425	1,454
U S S R ....	16,700	16,500	14,300	7,700	11,100	16,800	18,800	20,000
United Kingdom ...	8,794	9,042	8,145	8,300	7,919	7,421	7,840	8,779
Japan ....	3,374	3,758	4,496	4,530	4,184	2,820	552	157(2)
Canada ....	846	1,309	1,528	1,975	1,758	1,852	1,778	1,407(3)
Sweden ....	700	672	787	813	872	903	950	740
Spain ....	548	550	595	638	659	680	540	540(2)
Brazil ....	165	205	190	195	225	265	236	309
India ....	1,975	2,257	2,284	2,069	1,975	1,599	1,545	1,666
South Africa ....	336	336	349	403	524	509	618	588
Total ...	103,228	106,430	115,402	114,482	122,094	117,825	92,447	89,776

(1) Includes charcoal, iron, and ferro-alloys, made in blast furnaces.

(2) Last six months estimated.

(3) Does not include ferro-alloys.

## (b) Ferro-Alloys

Table 21 - Production of Ferro-Alloys, 1935 - 1945

Year	Net tons	Year	Net tons
1935 .....	63,410	1941 .....	204,354
1936 .....	85,438	1942 .....	209,017
1937 .....	91,921	1943 .....	197,094
1938 .....	62,637	1944 .....	171,323
1939 .....	85,540	1945 .....	178,109
1940 .....	149,394		

Table 22 - Producers of Ferro-Alloys in Canada, 1945.

Name of Company	Plant location	Products made
Abrasive Company of Canada, Limited	Arvida, Que.	Ferrosilicon (by-product)
Canadian Carborundum Company, Limited	Niagara Falls, Ont.	Ferrosilicon (by-product)
Canadian Furnace, Limited	Port Colborne, Ont.	Spiegeleisen and silvery ferrosilicon
Chromium Mining & Smelting Corp., Limited	Sault Ste. Marie, Ont.	Ferrosilicon, sil-x, chrom-x
Electro Metallurgical Company of Canada, Limited	Welland, Ont.	Ferrosilicon, Ferrochrome, ferromanganese, silicomanganese, ferromanganese silicon, spiegeleisen, silicospiegeleisen and calcium manganese silicon
Electric Reduction Company of Canada, Limited	Buckingham, Que.	Ferrophosphorus
Exelon Company	Thorold, Ont.	Ferrosilicon (by-product)
Lionite abrasives, Limited	Stamford, Ont.	Ferrosilicon (by-product)
Norton Company	Chippawa, Ont.	Ferrosilicon (by-product)
St.Lawrence Alloys and Metals, Limited	Beauharnois, Que.	Ferrosilicon, calcium silicon, silicon metal, zirconium alloy

## (c) Steel Ingots and Direct Steel Castings

Table 23 - Materials Used in Steel Furnaces, 1944 and 1945

Material	Quantity	1944		1945	
		Cost of purchased materials	Net tons	Cost of purchased materials	Net tons
Pig iron - Own make .....	1,439,310	...		1,363,495	...
Purchased .....	74,276	1,694,085		53,349	1,243,241
Scrap iron or steel - Own make .....	887,513	...		876,275	...
Purchased .....	754,737	15,661,279		865,620	15,370,285
Spiegeleisen .....	1,708	85,728		3,404	171,614
Silicospiegeleisen .....	358	28,330		176	14,670
Ferromanganese - High carbon .....		)		5,585	656,257
Medium carbon .....		)		14,046	1,726,290
Low carbon .....	20,224	2,510,354)		565	96,335
Silicomanganese .....	9,014	1,018,475		7,967	899,689
Ferrosilicon - 15% .....		)		2,319	124,723
25% .....		)		1,049	63,059
50% .....		)		6,426	427,822
75% .....		)		202	24,897
85-90% .....	11,055	692,370)		212	30,815
Ferrochrome (including chrom-x) - High carbon .....	3,154	453,650		1,582	323,694
Low carbon .....	1,018	404,976		1,173	436,469
Ferromolybdenum .....	93	142,067		71	110,897
Ferrophosphorus .....	405	35,533		423	37,101
Ferroselenium .....	2	4,406		1	2,277
Ferrotitanium .....	786	149,527		656	123,975
Ferrotungsten .....	86	287,116		138	455,317
Ferrovanadium .....	67	176,596		57	188,661
Ferozirconium .....	15	1,613		5	836

Table 23 - Materials Used in Steel Furnaces, 1944 and 1945 (Concluded)

Material	1944		1945	
	Quantity	Cost of purchased materials	Quantity	Cost of purchased materials
Calcium silicon .....	241	76,374	206	67,130
Calcium manganese silicon .....	575	188,312	589	193,020
Other ferro-alloys .....	...	401	...	943
Aluminum ingot and shot .....	983	289,021	828	197,132
Copper ingots, cakes, shot, etc. ....	95	20,451	131	30,023
Nickel .....	1,692	1,124,382	1,523	916,645
Other metals .....	...	79,024	...	75,189
Ore, iron, crude .....	154,217	1,203,977	105,734	1,063,070
Ore, iron, calcined, roasted or treated .....	198	1,004	880	5,434
Ore, manganese .....	25	592	...	...
Ore, chrome .....	1,204	56,831	745	35,998
Ore, tungsten .....	124	232,683	197	395,674
Bentonite .....	3,745	88,527	3,161	83,424
Coal, anthracite .....	653	6,993	309	4,005
bituminous .....	6	236	323	3,655
Coke - Purchased .....	4,685	51,659	4,512	53,032
Charcoal .....	199	8,034	145	6,713
Dolomite, Crude .....	77,085	199,774	71,060	209,716
Calcined .....	8,516	125,990	6,146	111,581
Fluorspar .....	20,024	692,104	19,462	669,813
Canister .....	6,009	22,015	5,568	17,948
Graphite .....	386	42,498	526	53,955
Lime .....	63,721	450,533	64,294	436,239
Limestone - Canadian .....	86,216	148,050	94,010	158,008
Imported .....	150,951	241,183	123,489	159,971
Magnesite .....	18,665	740,450	17,016	680,588
Electrodes .....	...	952,084	...	929,529
Silica sand - For moulds .....	87,273	613,332	75,619	512,848
For sand blasting .....	2,534	33,509	5,260	51,508
Other foundry sands .....	...	73,740	...	80,691
Firebrick, fireclay and other refractories .....	...	2,358,681	...	2,287,145
Calcium molybdate .....	166	176,572	115	116,753
Molybdenum trioxide (molybdic oxide) briquettes ..	537	749,582	314	517,138
All other materials .....	...	2,406,119	...	2,936,078
Total value of metals, ores and other materials used	...	36,800,822	...	35,589,520

Table 24 - Production of Steel Ingots and Steel Castings and Sales By the Producers, 1944 and 1945

	1944		1945	
	Total tonnage of steel made (all kinds) in- cluding alloys	Sales Quantity Net tons	Total tonnage of steel made (all kinds) in- cluding alloys	Sales Quantity Net tons
	Income from sales	Income from sales	Income from sales	Income from sales
Net tons	Net tons	\$	Net tons	Net tons
<b>Steel Ingots -</b>				
Basic open hearth .....	2,517,894	16,526	623,048	2,399,858
Electric .....	355,974	17,081	2,003,054	357,291
<b>Total Steel Ingots .....</b>	<b>2,873,868</b>	<b>33,607</b>	<b>2,626,102</b>	<b>2,757,149</b>
<b>Steel Castings -</b>				
Basic open hearth .....	35,032	33,607	5,900,114	31,216
Converter .....	2,470	2,527	680,781	942
Electric .....	104,792	101,331	25,641,368	88,620
<b>Total Steel Castings ....</b>	<b>142,294</b>	<b>137,465</b>	<b>32,222,263</b>	<b>120,778</b>
<b>Total Steel Ingots and Castings</b>	<b>3,016,162</b>	<b>171,072</b>	<b>34,848,365</b>	<b>2,877,927</b>
Any other products .....	...	7,608	1,106,958	...
<b>Total All Products .....</b>	<b>...</b>	<b>178,680</b>	<b>35,955,323</b>	<b>...</b>
Alloy steel included in above:				
Ingots .....	328,640	7,657	900,000	305,542
Castings .....	19,263	18,946	6,610,679	14,022
<b>Total .....</b>	<b>347,903</b>	<b>26,503</b>	<b>7,510,679</b>	<b>319,564</b>

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Table 25 - Production of Steel Ingots and Steel Castings, By Grades, 1935-1945 (Net tons)

Year	Steel Ingots		Steel Castings		Total steel ingots and castings
	Open hearth	Electric	Open hearth	Con- verter	
1935 .....	977,137	41,151	10,213	722	1,054,509
1936 .....	1,162,238	49,096	11,433	644	1,249,672
1937 .....	1,427,991	68,584	26,686	1,138	1,571,227
1938 .....	1,172,867	62,598	17,388	850	1,293,812
1939 .....	1,410,339	79,718	17,473	934	1,551,054
1940 .....	2,041,947	135,633	21,085	2,268	2,253,769
1941 .....	2,394,098	199,414	29,401	3,371	2,712,151
1942 .....	2,623,853	335,053	26,627	6,515	3,109,851
1943 .....	2,484,544	362,192	28,895	4,003	3,004,124
1944 .....	2,517,894	355,974	35,032	2,470	3,016,162
1945 .....	2,399,858	357,291	31,216	942	2,877,927

Table 26 - Production of Steel Ingots and Steel Castings, By Months, 1941-1945 (Net tons)

Month	1 9 4 1	1 9 4 2	1 9 4 3	1 9 4 4	1 9 4 5
January .....	208,659	257,516	207,008	242,186	268,722
February .....	193,422	241,421	245,588	229,852	250,464
March .....	218,939	264,403	270,962	275,539	277,461
April .....	224,762	263,488	264,357	260,825	274,213
May .....	230,843	270,747	271,737	263,431	267,643
June .....	209,623	252,663	240,501	240,750	257,115
July .....	220,994	256,560	251,508	234,418	229,161
August .....	227,075	248,868	247,820	246,755	224,928
September .....	224,626	244,922	242,255	242,725	198,508
October .....	249,595	271,127	272,976	272,775	205,846
November .....	247,931	270,812	260,444	266,174	207,981
December .....	255,682	267,324	228,968	240,732	215,885
Total .....	2,712,151	3,109,851	3,004,124	3,016,162	2,877,927

Table 27 - Annual Production of Steel Ingots and Steel Castings, By Provinces, 1935-1945 (Net tons)

Year	Nova Scotia	Quebec	Ontario	Manitoba	Alberta	British Columbia	Canada
1935 .....	334,621	39,285	660,305	18,204	414	1,680	1,054,509
1936 .....	424,500	44,567	756,993	21,503	305	1,804	1,249,672
1937 .....	478,356	68,113	994,455	27,480	402	2,421	1,571,227
1938 .....	379,096	54,591	836,585	20,256	419	2,865	1,293,812
1939 .....	451,314	56,702	1,014,003	25,043	445	3,547	1,551,054
1940 .....	623,021	73,631	1,512,495	39,789	381	4,452	2,253,769
1941 .....	633,203	138,721	1,872,345	54,489	7,400	5,993	2,712,151
1942 .....	637,993	180,637	2,207,208	55,067	22,264	6,682	3,109,851
1943 .....	576,578	157,662	2,182,802	55,555	22,217	9,310	3,004,124
1944 .....	578,346	117,638	2,253,685	42,149	18,085	6,259	3,016,162
1945 .....	590,365	108,779	2,116,066	44,284	13,156	5,277	2,877,927

Table 28 - Sales of Steel Ingots and Steel Castings By the Producers, 1935-1945

Year	Tonnage sold	Income from sales	Year	Tonnage sold	Income from sales
	Net tons	\$		Net tons	\$
1935 .....	39,639	4,196,922	1941 .....	333,855	32,502,948
1936 .....	31,394	4,788,296	1942 .....	286,007	38,014,454
1937 .....	72,696	10,616,508	1943 .....	151,924	30,057,984
1938 .....	48,256	7,780,163	1944 .....	171,072	34,848,365
1939 .....	63,354	9,169,097	1945 .....	148,247	28,121,723
1940 .....	143,927	18,616,483			

Table 29 - Production of Alloy Steel Ingots and Castings, 1939-1945

Year	Ingots	Castings	Total
			(Net tons)
1939 .....	51,883	5,700	57,583
1940 .....	95,150	9,876	105,026
1941 .....	207,631	11,219	218,850
1942 .....	374,457	25,879	400,336
1943 .....	393,491	19,992	413,483
1944 .....	328,640	19,263	347,903
1945 .....	305,542	14,022	319,564

Table 30 - Metal, Ore and Flux Charged to Steel Furnaces, 1935-1945 (Net tons)

Year	Pig iron	Ferro-manganese and spiegeleisen	Other ferro- alloys	Scrap iron and steel	Iron ore	Limestone	Dolomite	Fluorspar
1935 .....	499,824	12,021	4,331	718,658	56,582	91,412	18,394	5,859
1936 .....	584,912	15,062	6,525	777,268	73,013	109,200	43,562	7,942
1937 .....	747,747	18,003	9,281	1,003,791	97,625	125,922	53,066	9,039
1938 .....	634,920	15,935	5,665	747,340	83,523	106,881	40,540	7,128
1939 .....	733,096	18,761	8,885	927,018	91,650	121,007	55,450	7,972
1940 .....	1,083,190	21,385	14,686	1,327,510	145,658	165,975	81,233	15,307
1941 .....	1,340,441	26,566	25,063	1,599,124	155,273	202,609	92,695	17,054
1942 .....	1,615,396	22,101	28,632	1,826,911	198,890	243,608	101,641	20,133
1943 .....	1,518,548	19,463	19,800	1,751,779	171,040	242,032	89,056	20,790
1944 .....	1,513,586	21,932	16,891	1,642,250	154,415	237,167	85,601	20,024
1945 .....	1,416,844	23,600	23,244	1,741,895	106,614	217,499	77,206	19,462

Table 31 - Steel Furnaces in Canada, (x) December 31, 1945

	Type	Number of units	Size (net tons)	Total annual capacity net tons
<u>Nova Scotia</u>				
Dominion Steel & Coal Corp. Ltd., Sydney	O.H.	10	56	320,000
	O.H.	5	112	402,400
	Elec.	1	11	28,000
Total .....	...	16	...	750,400
Maritime Steel Foundries Ltd., New Glasgow	Elec.	1	4	3,000
<u>Quebec</u>				
Canadian Brake Shoe & Foundry Co. Ltd., Montreal .....	Elec.	2	2	1,800
Canadian Car & Foundry Co. Ltd., Montreal	O.H.	3	28	51,576
	Elec.	1	4	7,728
	Elec.	1	23	40,320
Total .....	...	5	...	99,624
Canadian Tube & Steel Products Ltd., Montreal	Elec.	1	5	13,400
	Elec.	2	5	31,200
Total .....	...	3	...	44,600

(x) Does not include 2 plants which ceased operations in July and September, 1945.

Table 31 - Steel Furnaces in Canada, December 31, 1945 (Continued)

	Type	Number of units	Size (net tons)	Total annual capacity net tons
<u>Quebec (Concl.)</u>				
Hull Iron & Steel Foundries Ltd., Hull	Elec.	1	7	8,500
	Elec.	1	1	2,680
	Elec.	1	2	3,300
Total .....	...	3	...	14,480
Joliette Steel Limited, Joliette .....	Elec.	1	1	1,500
	Elec.	1	1 $\frac{1}{2}$	3,000
Total .....	...	2	...	4,500
La Compagnie F.X. Drolet Ltd., Quebec	Conv.	1	1	300
Lynn MacLeod Metallurgy Ltd., Thetford Mines,	Elec.	1	1 $\frac{1}{2}$	2,500
Manganese Steel Castings Ltd., Sherbrooke	Elec.	1	2	1,500
Shawinigan Chemicals Ltd., Shawinigan Falls	Elec.	1	1 $\frac{1}{2}$	468
	Elec.	1	2	1,872
	Elec.	1	1	936
Total .....	...	3	...	3,276
Sorel Industries Limited, Sorel .....	Elec.	1	8	11,200
	Elec.	1	4	5,600
	Elec.	1	20	28,000
Total .....	...	3	...	44,800
Sorel Steel Foundries Ltd., Sorel .....	Elec.	1	4	9,400
<u>Ontario</u>				
Algoma Steel Corp. Ltd., Sault Ste. Marie	O.H.	8	66	400,000
	O.H.	4	123	360,000
Total .....	...	12	...	760,000
Atlas Steels Limited, Welland .....	Elec.	1	6	7,200
	Elec.	1	10	12,000
	Elec.	4	25	120,000
Total .....	...	6	...	139,200
Burlington Steel Company Ltd., Hamilton ...	Elec.	1	6	24,000
Canada Electric Castings Ltd., Orillia ....	Elec.	2	2	6,000
Dominion Foundries & Steel Ltd., Hamilton .	O.H.	2	55	108,900
	O.H.	1	50	49,450
	O.H.	1	45	44,550
	Elec.	2	10	26,400
	Elec.	1	25	24,750
	Elec.	1	45	44,550
	Elec.	1	2 $\frac{1}{2}$	9,000
Total .....	...	9	...	307,600
Fahr alloy Canada Ltd., Orillia .....	Elec.	1	1 $\frac{1}{2}$	1,524
	Elec.	1	1 $\frac{1}{2}$	2,286
	Elec.	1	2	3,048
Total .....	...	3	...	6,858

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Table 31 - Steel Furnaces in Canada, December 31, 1945 (Concluded)

Type	Number of units	Size (net tons)	Total annual capacity net tons
<u>Ontario (Concl.)</u>			
Federal Foundries & Steel Co., London	Elec.	2	13,140
Ford Motor Co. of Canada Ltd., Windsor	Elec.	1	625
	Elec.	1	10,500
	Elec.	17	99,875
	Elec.	1	750
Total .....	...	20	111,750
William Kennedy & Sons Ltd., Owen Sound,	Conv.	1	4,800
	Elec.	1	9,000
Total .....	...	2	13,800
Steel Company of Canada, Hamilton .....	O.H.	1	38,500
	O.H.	3	139,500
	O.H.	4	292,000
	O.H.	5	550,000
	Elec.	1	85,500
Total .....	...	14	1,105,500
Welland Electric Steel Foundry Ltd., Welland	Elec.	1	1 <sup>1</sup> )
	Elec.	1	2 <sup>1</sup> )
	Elec.	1	3 <sup>1</sup> )
Total .....	...	3	5,400
<u>Manitoba</u>			
Manitoba Rolling Mill Co. Ltd., Selkirk	O.H.	2	18 <sup>1</sup>
	Elec.	1	3
Total .....	...	3	55,000
Manitoba Steel Foundries Ltd., Selkirk	Elec.	1	5
Vulcan Iron Works Ltd., Winnipeg .....	Elec.	1	3
			2,664
<u>Alberta</u>			
Riverside Iron Works Ltd., Calgary .....	Elec.	1	1
			900
<u>British Columbia</u>			
A-1 Steel and Iron Foundry, Vancouver ...	Elec.	1	1 <sup>1</sup>
Britannia Mining & Smelting Co. Ltd., Britannia Beach .....	Elec.	1	5
Consolidated Mining & Smelting Co. of Canada, Trail .....	Elec.	1	4
Reliance Foundry Co. Ltd., Vancouver	Elec.	1	1 <sup>1</sup>
	Elec.	1	1 <sup>1</sup>
Total .....	...	2	3,030
Vancouver Engineering Works Ltd., Vancouver	Elec.	1	2
	Elec.	1	1
	Conv.	1	2
Total .....	...	3	6,800
Victoria Machinery Depot Co. Ltd., Victoria	Elec.	1	1 <sup>1</sup>
Westland Iron & Steel Foundries Ltd., Vancouver .....	Elec.	1	5
	Elec.	1	1 <sup>1</sup>
Total .....	...	2	5,700

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Table 32 - Summary of Steel Furnace Capacity, December 31, 1945

	Number of furnaces	Total annual capacity (net tons)
Basic open hearth .....	49	2,796,876
Electric .....	81	755,496
Converter .....	3	8,200
Total .....	133	3,560,572
Steel ingots - Basic open hearth .....		2,745,300
Electric .....		460,990
Total .....		3,206,290
Steel castings .....		354,282
Total Ingots and Castings .....		3,560,572

Table 33 - World Ingot and Castings Production (Figures taken from "The Iron Age", Published by The McGraw-Hill Publishing Co. Ltd., New York, U.S.A.)

	1939	1940	1941	1942	1943	1944	1945	1946
(thousands of net tons)								
United States ...	52,799	66,983	82,839	86,032	88,836	89,642	80,100	65,900
Germany .....	26,152	23,732	25,804	31,684	33,706	28,481	5,500	2,746
Poland .....	1,345	...	240	262	284	184	150	1,274
Belgium .....	3,200	2,520	1,835	1,578	1,862	622	550	2,400
France .....	9,260	6,160	1,658	2,429	2,662	1,407	1,280	4,570
Luxemburg .....	2,016	1,451	...	...	...	...	358	1,381
U.S.S.R. ....	20,600	20,100	16,600	12,200	13,300	15,400	19,800	21,500
United Kingdom ..	14,571	14,300	13,568	14,263	14,361	13,422	13,238	14,372
Japan .....	7,365	7,541	7,528	7,748	8,616	6,433	1,173	547(1)
Canada .....	1,551	2,253	2,712	3,109	3,004	3,016	2,878	2,370
Sweden .....	1,300	1,280	1,283	1,360	1,337	1,322	1,350	1,290
Spain .....	537	540	609	602	660	706	600	709(1)
Brazil .....	145	155	140	145	167	199	205	273
Mexico .....	80	110	107	110	...	201	209	262(1)
India .....	1,269	1,451	1,572	1,505	1,572	1,532	1,518	1,505
South Africa ....	349	403	376	376	456	537	591	491

(1) Last 6 months estimated.

Table 34 - Materials Used For All Purposes in Iron and Steel Rolling and Drawing Mills, 1944 and 1945

Material	Companies' own make	Purchased	
		Quantity	Cost at works
<u>1944</u>			
Steel ingots .....	2,812,793	16,795	565,265
Steel blooms .....	78,236	39,050	1,518,126
Steel slabs .....	...	69,418	2,779,121
Steel billets .....	44,431	29,419	1,101,727
Steel bars .....	...	62,362	4,237,637
Rails, old .....	163	36,277	715,536
Axles, old .....	...	1,497	31,725
Scrap iron and steel, other .....	4,992	374	4,917
Tin .....	...	626	1,037,518
Zinc spelter .....	...	3,209	331,414
Ammonium chloride .....	...	173	20,057
Sulphuric acid, 66° Be .....	...	6,910	113,094
Silica sand .....	...	785	5,769
All other materials and supplies .....	...	...	672,536
Total .....	...	...	13,134,442
<u>1945</u>			
Steel ingots .....	2,721,907	19,324	660,765
Steel blooms .....	76,663	20,465	895,196
Steel slabs .....	...	32,822	1,341,873
Steel billets .....	54,718	52,700	2,346,683
Steel bars .....	5	42,917	2,745,972
Rails, old .....	...	42,579	842,017
Axles, old .....	...	1,354	27,719
Scrap iron and steel, other .....	4,027	1,730	29,830
Tin .....	...	990	1,247,299
Zinc spelter .....	...	3,800	391,624
Ammonium chloride .....	...	224	25,930
Sulphuric acid, 66° Be .....	...	7,973	126,603
Silica sand .....	...	711	4,965
All other materials and supplies .....	...	...	516,196
Total .....	...	...	11,202,672

Table 35 - Products Made in Iron and Steel Rolling and Drawing Mills, 1944 and 1945

Product	Total tonnage made	Factory Sales	
		Tonnage sold in Canada or for export	Income from tonnage sold
	Net tons	Net tons	\$
1 9 4 4			
<u>Semi-finished rolled forms of iron and steel -</u>			
Blooms, billets and slabs, except those for forging, but including sheet and tinplate bars .....	1,643,679	125,159	4,849,949
Blooms, billets and axle blanks, for forging purposes only, excluding all those intended for further rolling	226,114	211,800	12,191,804
Total Semi-finished Rolled Forms .....	1,869,793	336,959	17,041,753
<u>Rails and rail fastenings-</u>			
Rails .....	325,486	324,052	15,921,873
Splice bars or fish plates .....	14,583	14,324	997,004
Tie plates, rail joints, frogs, etc. ....	41,826	38,351	2,123,629
Total Rails and Rail Fastenings .....	381,895	376,727	19,042,506
<u>Wire rods of iron steel, including chain rods .....</u>			
<u>Structural steel shapes (including angles of all sizes, beams, channels, tees, etc., but excluding plates and bars -</u>			
Over 35 pounds per yard .....	61,731	64,301	3,469,751
Up to, and including, 35 pounds per yard .....	94,177	94,940	5,910,628
Total Structural Steel Shapes .....	155,908	159,241	9,380,379
<u>Bars of iron or steel -</u>			
Bars, hot rolled, of all grades and of all sections, but omitting all bars reported under the items immediately below .....	452,652	400,111	28,486,322
Bars for concrete reinforcing, including twisted and other deformed bars, except bars rolled from old rails or axles .....	27,719	28,868	1,612,693
Long angle splice bars, tie plate bars and all other long rail joint bars .....	53,825	3	201
Total Hot Rolled Bars .....	534,196	428,982	30,099,216
<u>Cold rolled and cold drawn bars .....</u>			
<u>Plates, all kinds (iron or steel flats over 14 inches in width, and thicker than No.7 U.S. standard gauge) .....</u>			
Sheets, hoops, bands and strips, including plain sheets, hot rolled strips, cold rolled strips, galvanized sheets (x), tinplate (x), terne plate (x) and bonderized plate (x) .....	210,812	201,098	16,910,375
Total Plates, Sheets, Hoops, Bands and Strips .....	390,343	389,671	26,566,575
<u>Other rolled forms, including mine arches, sheet piling, etc. .....</u>			
Miscellaneous products (not rolled) made in rolling mills, including horseshoes, grinding balls, washers, forged axles, railway spikes, pressed spikes, etc. ....	601,155	590,769	43,476,950
Total Value of Production .....	29,379	28,686	1,875,211

(x) Includes the tonnages made in rolling mills only.

Table 35 - Products Made in Iron and Steel Rolling and Drawing Mills, 1944 and 1945 (Concluded)

Product	Total tonnage made	Factory Sales	
		Tonnage sold in Canada or for export	Income from tonnage sold
	Net tons	Net tons	\$
1 9 4 5			
<u>Semi-finished rolled forms of iron and steel -</u>			
Blooms, billets and slabs, except those for forging, but including sheet and tinplate bars .....	1,572,489	88,950	3,425,864
Blooms, billets and axle blanks, for forging purposes only, excluding all those intended for further rolling	227,577	211,468	14,306,145
Total Sem-finished Rolled Forms	1,800,066	300,418	17,732,009
<u>Rails and rail fastenings -</u>			
Rails .....	291,651	288,630	14,229,922
Splice bars or fish plates .....	10,847	10,836	778,664
Tie plates, rail joints, frogs, etc. ....	40,129	40,784	2,271,313
Total Rails and Rail Fastenings .....	342,627	340,250	17,279,899
<u>Wire rods of iron or steel, including chain rods .....</u>	257,606	105,648	4,417,200
<u>Structural steel shapes (including angles of all sizes, beams, channels, tees, etc., but excluding plates and bars) -</u>			
Over 35 pounds per yard .....	75,737	70,999	3,798,363
Up to, and including, 35 pounds per yard .....	116,170	119,051	6,601,140
Total Structural Steel Shapes .....	191,907	190,050	10,399,503
<u>Bars of iron or steel -</u>			
Bars, hot rolled, of all grades and of all sections, but omitting all bars reported under the items immediately below .....	485,354	400,053	29,380,594
Bars for concrete reinforcing, including twisted and other deformed bars, except bars rolled from old rails or axles .....	39,610	38,569	2,299,615
Long angle splice bars, tie plate bars and all other long rail joint bars .....	49,482	...	...
Total Hot Rolled Bars .....	574,446	438,622	31,680,209
<u>Cold rolled and cold drawn bars .....</u>	34,587	34,003	3,994,957
<u>Plates, all kinds (iron or steel flats over 14 inches in width, and thicker than No.7 U.S. standard gauge) .....</u>	282,592	275,674	16,687,112
<u>Sheets, hoops, bands and strips, including plain sheets, hot rolled strips, cold rolled strips, galvanized sheets (x), tinplate (x) terne plate (x) and bonderized plate (x) .....</u>	212,621	213,050	18,624,564
Total Plates, Sheets, Hoops, Bands and Strips .....	495,213	488,724	35,311,676
<u>Other rolled forms, including mine arches, sheet piling, etc.</u>	12,143	12,142	803,493
<u>Miscellaneous products (not rolled) made in rolling mills, including horseshoes, grinding balls, washers, forged axles, railway spikes, pressed spikes, etc. .....</u>	63,043	60,974	11,766,364
Total Value of Production .....	...	...	133,385,310

(x) Includes the tonnages made in rolling mills only.

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Table 36 - Alloy Steel Products Made and Sold By Rolling Mills, 1944 and 1945

	1 9 4 4 Tonnage Made	Tonnage Sold	1 9 4 5 Tonnage Made	Tonnage Sold
(net tons)				
Rails .....	100	100	1,269	1,095
Bars .....	109,756	109,984	122,302	95,766
Other products, including plates, billets for forging, shell steel, gun forgings, sheet piling and wire rods .....	137,406	102,437	120,424	86,973
Total Alloy Steel .....	247,262	212,521	243,995	183,834

Table 37 - Products Rolled From Old Rails, Axles, Etc., 1944 and 1945

	1 9 4 4 Tonnage Made	Tonnage Sold	1 9 4 5 Tonnage Made	Tonnage Sold
(net tons)				
Rails .....	...	...	...	...
Bars .....	12,338	11,962	20,184	14,482
Other products .....	18,732	15,291	16,480	13,175
Total From Old Rails, Etc. ....	31,070	27,253	36,664	27,657

Table 38 - Pig Iron, Steel Ingots and Castings, and Semi-finished Rolled Forms Shipped for Export By Producers, 1944 and 1945

	1 9 4 4 Tonnage Made	1 9 4 5 Tonnage Made
(net tons)		
Pig iron .....	4,954	22,153
Steel ingots .....	10,098	19,066
Steel castings .....	2,473	1,785
Semi-finished rolled forms .....	721	39,769
Total .....	18,246	82,773

Table 39 - Net Production (x) In Canada of Hot Rolled Iron and Steel Products, 1943 to 1945 (Net tons)

	1 9 4 3	1 9 4 4	1 9 4 5
Blooms, billets and slabs .....	178,299	231,737	251,229
Rails .....	263,920	325,486	291,651
Rail fastenings .....	41,590	56,409	50,976
Wire rods .....	235,583	244,270	257,606
Structural shapes .....	146,965	155,908	191,907
Bars .....	556,360	480,371	524,964
Plates, sheets, hoops, bands and strips .....	619,067	617,408	522,621
Other hot rolled forms .....	21,846	29,379	12,143
Total .....	2,063,630	2,140,968	2,103,097

(x) Inter-mill shipments have been excluded.

Table 40 - Production and Factory Sales of Steel Rails, 1935 - 1945

Year	Tonnage made Net tons	Factory Sales	
		Tonnage sold Net tons	Income from sales \$
1935 .....	122,302	122,349	4,484,594
1936 .....	130,135	131,212	4,885,388
1937 .....	86,932	86,514	3,422,501
1938 .....	126,479	121,612	5,002,610
1939 .....	123,023	127,694	5,182,146
1940 .....	199,998	197,626	7,839,858
1941 .....	137,298	131,128	5,575,492
1942 .....	183,430	184,016	8,216,123
1943 .....	263,920	261,483	12,309,676
1944 .....	325,486	324,052	15,921,873
1945 .....	291,651	288,630	14,229,922

Table 41 - Production and Factory Sales of Finished Rail Fastenings, 1935-1945

Year	Tie Plates			Fish Plates and Splice Bars		
	Quantity made	Factory Sales		Quantity made	Factory Sales	
	Net tons	Net tons	\$	Net tons	Net tons	\$
1935 .....	20,420	20,650	944,342	6,113	6,014	344,711
1936 .....	26,228	25,571	1,136,175	5,634	5,812	333,712
1937 .....	23,284	24,394	1,123,923	7,125	7,180	430,204
1938 .....	22,190	20,629	1,090,726	5,543	4,978	335,396
1939 .....	24,548	23,183	1,181,086	10,314	10,784	716,985
1940 .....	24,371	28,544	1,388,150	14,040	13,702	907,832
1941 .....	28,747	28,765	1,492,488	12,873	12,566	847,039
1942 .....	25,187	25,685	1,393,375	14,510	14,963	1,018,651
1943 .....	27,214	27,057	1,486,184	14,376	14,554	1,002,902
1944 .....	41,826	38,351	2,123,629	14,583	14,324	997,004
1945 .....	40,129	40,784	2,271,313	10,847	10,836	778,664

Table 42 - Production and Factory Sales of Wire Rods of Iron or Steel, 1935-1945

Year	Total Factory Sales			Year	Total Factory Sales		
	Tonnage made	Tonnage sold	Income from sales		tonnage made	Tonnage sold	Income from sales
	Net tons	Net tons	\$		Net tons	Net tons	\$
1935 .....	205,485	76,606	2,412,244	1941 .....	293,476	121,422	5,214,493
1936 .....	230,927	98,364	3,132,811	1942 .....	256,457	105,475	4,347,189
1937 .....	242,092	96,518	3,568,873	1943 .....	235,583	88,848	3,621,772
1938 .....	191,803	77,554	3,075,006	1944 .....	244,270	105,046	4,300,337
1939 .....	240,194	98,070	3,954,970	1945 .....	257,606	105,648	4,417,200
1940 .....	300,785	131,255	5,305,124				

Table 43 - Production and Factory Sales of Blooms, Billets and Slabs, 1935-1945

Year	Except for Forging (x)				For Forging		
	Total tonnage made	Tonnage sold	Factory Sales	Income from sales	Total tonnage made	Tonnage sold	Factory Sales
	Net tons	Net tons	\$	Net tons	Net tons	\$	
1935 .....	747,535	80,316	1,899,030		6,115	3,702	173,298
1936 .....	788,506	123,913	2,902,013		6,980	5,557	249,554
1937 .....	1,401,043	181,711	5,128,779		41,730	27,807	1,171,280
1938 .....	868,083	99,908	3,037,373		26,451	23,732	979,797
1939 .....	1,109,145	147,978	4,702,975		29,203	27,036	1,233,754
1940 .....	1,591,238	175,254	6,821,949		41,232	41,404	1,885,903
1941 .....	1,604,520	174,463	6,882,562		111,712	102,317	5,796,472
1942 .....	1,608,969	162,171	5,650,983		226,541	178,897	10,692,911
1943 .....	1,694,930	134,000	6,320,193		165,999	145,492	7,586,292
1944 .....	1,643,679	125,159	4,849,949		226,114	211,800	12,191,804
1945 .....	1,572,489	88,950	3,425,864		227,577	211,468	14,306,145

(x) Includes sheet and tinplate bars and muck and scrap bars for 1935 to 1937. Shipments to other Canadian rolling mills are included.

Table 44 - Production and Factory Sales of Hot Rolled Bars (x), of All Kinds, 1935-1945

Year	Total tonnage made		Factory Sales	
	Tonnage made	Tonnage sold	Income from sales	
	Net tons	Net tons	\$	
1935 .....	243,574	149,705	9,032,553	
1936 .....	283,146	216,441	10,374,417	
1937 .....	388,662	321,515	18,066,438	
1938 .....	277,783	215,830	12,295,300	
1939 .....	314,050	251,040	14,216,981	
1940 .....	453,788	365,434	23,078,104	
1941 .....	542,575	444,634	29,786,195	
1942 .....	592,016	474,312	37,442,850	
1943 .....	598,113	489,879	43,233,796	
1944 .....	534,196	428,982	30,099,216	
1945 .....	574,446	438,622	31,680,209	

(x) Includes light angles prior to 1939.

Table 45 - Production of Structural Steel Shapes (x), of All Kinds, 1935-1945

Year	Total tonnage made	Factory Sales	
	Net tons	Tonnage sold Net tons	Income from sales \$
1935 .....	42,529	43,756	1,937,695
1936 .....	41,537	40,797	1,835,257
1937 .....	93,279	94,461	4,605,796
1938 .....	65,633	67,730	3,589,905
1939 .....	90,810	91,921	4,554,201
1940 .....	183,728	180,278	8,667,678
1941 .....	189,783	193,251	9,600,490
1942 .....	184,701	191,319	10,540,658
1943 .....	146,965	151,674	8,802,273
1944 .....	155,908	159,241	9,380,379
1945 .....	191,907	190,050	10,399,503

(x) Includes light angles since 1939.

Table 46 - Production and Factory Sales of Steel Plates, 1939-1945

Year	Total tonnage made	Factory Sales	
	Net tons	Tonnage sold Net tons	Income from sales \$
1939 .....	75,655	76,189	3,770,927
1940 .....	82,481	83,392	4,338,799
1941 .....	194,647	191,620	13,161,884
1942 .....	391,887	385,314	30,095,754
1943 .....	395,298	391,202	27,919,833
1944 .....	390,343	389,671	26,566,575
1945 .....	282,592	275,674	16,687,112

## DIRECTORY OF FIRMS IN THE PRIMARY IRON AND STEEL INDUSTRY, 1945

Name of Firm	Location of Plants
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(a) PIG IRON

Dominion Steel & Coal Corporation, Limited	Sydney, N.S.
Algoma Steel Corporation, Limited	Sault Ste. Marie, Ont.
Canadian Furnace Limited	Port Colborne, Ont.
Steel Company of Canada, Limited	Hamilton, Ont.

(b) FERRO-ALLOYS (x)

Canadian Furnace, Limited	Port Colborne, Ont.
Chromium Mining & Smelting Corporation, Limited	Sault Ste. Marie, Ont.
Electro Metallurgical Company of Canada, Limited	Welland, Ont.
St.Lawrence Alloys and Metals, Limited	Beauharnois, Que.

(c) STEEL INGOTS AND STEEL CASTINGS

Maritime Steel and Foundries, Limited	379 Glasgow St., New Glasgow, N.S.
Dominion Steel & Coal Corporation, Limited	Sydney, N.S.
Canadian Brake Shoe & Foundry Company, Limited	101 Belvidere St., Sherbrooke, Que.
Canadian Car & Foundry Company, Limited	Longue Pointe, Montreal, Que.
Canadian Tube & Steel Products, Limited	5900 St.Patrick St., Montreal, Que.
Electric Steels, Limited	Cap de la Madeleine, Que.
Hull Iron & Steel Foundries, Limited	207 Montcalm St., Hull, Que.
Joliette Steel, Limited	Laval St., Joliette, Que.
La Compagnie F.X. Drolet	206 rue du Pont, Quebec, Que.

(x) Not including the firms which made ferro-alloys as secondary products.

## DIRECTORY OF FIRMS IN THE PRIMARY IRON AND STEEL INDUSTRY, 1945 -(Concluded)

Name of Firm	Location of Plants
<b>(c) STEEL INCOTS AND STEEL CASTINGS (Concluded)</b>	
Lynn MacLeod Metallurgy Limited	Notre Dame St., Thetford Mines, Que.
Manganese Steel Castings, Limited	Abenaquis St., Sherbrooke, Que.
Shawinigan Chemicals, Limited (Stainless Steel Division)	Shawinigan Falls, Que.
Sorel Industries, Limited	Sorel, Que.
Sorel Steel Foundries, Limited	7 Limoges St., Sorel, Que.
Algoma Steel Corporation, Limited	Sault Ste. Marie, Ont.
Atlas Steels, Limited	East Main St., Welland, Ont.
Burlington Steel Company, Limited	Sherman Avenue North, Hamilton, Ont.
Canada Electric Castings, Limited	West St., Orillia, Ont.
Dominion Foundries & Steel, Limited	Depew St., Hamilton, Ont.
Fahr alloy, Canada, Limited	Barrie Road, Orillia, Ont.
Federal Foundries and Steel Co., Limited	London, Ont.
Ford Motor Company of Canada, Limited	Windsor, Ont.
Kennedy & Sons, Limited, The Wm.	Second Avenue West, Owen Sound, Ont.
Steel Company of Canada, Limited	Wilcox St., Hamilton, Ont.
Welland Electric Steel Foundry Limited	123 Victoria St., Welland, Ont.
Manitoba Rolling Mill Company, Limited	Selkirk, Man.
Manitoba Steel Foundries, Limited	Selkirk, Man.
Vulcan Iron Works, Limited	Pt. Douglas Avenue, Winnipeg, Man.
Dominion Bridge Company, Limited (Calgary Rolling Mill Dept.)	32nd Ave. and 17th St. E., Calgary, Alta.
Riverside Iron Works, Limited	803 - 24th Avenue S.E., Calgary, Alta.
Britannia Mining and Smelting Company, Limited	Britannia Beach, B.C.
Consolidated Mining & Smelting Company of Canada, Limited	Tadanac, B.C.
Reliance Foundry Company, Limited	149 Fourth Avenue West, Vancouver, B.C.
Vancouver Engineering Works, Limited	519 Sixth Avenue West, Vancouver, B.C.
Westland Iron and Steel Foundries, Limited	1395 Franklin St., Vancouver, B.C.
A-1 Steel & Iron Foundry Ltd.	29 West 3rd Ave., Vancouver, B.C.
Victoria Machinery Depot Co. Ltd.	33 Dallas Road, Victoria, B.C.
<b>(d) HOT ROLLED IRON AND STEEL</b>	
Canadian Car & Foundry Company, Limited	Amherst, N.S.
Dominion Steel & Coal Corporation, Limited	Sydney, N.S.
Trenton Steel Works, Limited	Trenton, N.S.
Canadian Tube & Steel Products, Limited	5900 St. Patrick St., Montreal, Que.
Pack Rolling Mills, Limited	851 Mill St., Montreal, Que.
Steel Company of Canada, Limited	Notre Dame St. West, Montreal, Que.
Algoma Steel Corporation, Limited	Sault Ste. Marie, Ont.
Atlas Steels, Limited	Welland, Ont.
Burlington Steel Company, Limited	Sherman Avenue North, Hamilton, Ont.
Dominion Foundries & Steel, Limited	Depew St., Hamilton, Ont.
Federal Foundries & Steel Company Limited	529 Philip St., London, Ont.
Steel Company of Canada, Limited	Queen St. North, Hamilton, Ont.
Steel Company of Canada, Limited	Wilcox St., Hamilton, Ont.
Manitoba Rolling Mill Company, Limited	Selkirk, Man.
Dominion Bridge Company, Limited (Calgary Rolling Mill Dept.)	17th Street East and 32nd Ave., Calgary, Alta.
<b>(e) COLD ROLLED STEEL</b>	
Stanley Steel Company, Limited	57 Gerrard St., Hamilton, Ont.
<b>(f) COLD DRAWN STEEL</b>	
Canadian Drawn Steel Company, Limited	Gerrard St., Hamilton, Ont.
Union Drawn Steel Company, Limited	Victoria Avenue South, Hamilton, Ont.

NOTE: Detailed statistics of imports and exports of iron and steel products are available on application to the Dominion Bureau of Statistics, Ottawa, Canada.



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