

# IRON AND STEEL MILLS



Published by Authority of The Minister of Trade and Commerce

# DOMINION BUREAU OF STATISTICS

Industry Division

August 1966 6506-800 Price: 50 cents

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Special	Grinding Balls	A		
Special	Consumption of Lead and Zinc	Q		

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# IRON AND STEEL MILLS 1963

Data presented in this report under the heading of Iron and Steel Mills reflect implementation of the revised Standard Industrial Classification (S.I.C.) and the New Establishment Concept which are being used by the Dominion Bureau of Statistics in its compilations of industry statistics—see items "Standard Industrial Classification" and "Establishment" in the Explanatory Notes section of this report.

For statistical purposes the industry titled Iron and Steel Mills in the revised Standard Industrial Classification covers four main types of establishments:

- (1) Establishments primarily engaged in manufacturing pig iron and ferro-alloys.
- (2) Steel plants primarily engaged in manufacturing ingots and steel castings and continuous casting of steel.
- (3) Rolling mills primarily engaged in hot and cold rolling of steel into primary shapes.
- (4) Coke ovens operated in connection with blast furnaces. In some instances, the blast furnace, steel mill, rolling mill and coke oven or some combination of two or more of them are carried on as one integrated operation and the manufacturing processes may be carried on beyond the rolling mill stage.

# SYMBOLS

The following standard symbols are used in Dominion Bureau of Statistics publications:

- .. figures not available.
- ... figures not appropriate or not applicable.
- nil or zero.
- amount too small to be expressed.
- p preliminary figures.
- revised figures.
- x confidential to meet secrecy requirements of the Statistics Act.

TABLE 1 A. Principal Statistics classified by Province, 1962 and 1963

	LAD	LE 13.	Firmer				by Provin	Ce, 190x	anu 13		7-6-162		
					lfacturing	activity					Total acti		
Year and	Estab-		duction a		Cost of	Cost of	Value of shipments			owners		otal oyees	
province	ments	Number	Man- hours paid	Wages	fuel and elec- tricity	materials and supplies	of goods of own manu- facture	Value added	Number	With- drawals	Number	Salaries and wages	Total value added
	No.		'000			\$'000				\$,000		\$*(	000
1961													
Totals	41	28, 408	59,336	152, 529	29,670	351,055	774, 748	397, 331	-	-	34, 749	193, 712	405,187
1962									L. Company				
Newfoundland													
Prince Edward Island													
Nova Scotia	2												
New Brunswick		5 072	10,794	25 372	5,760	52,696	108,548	51,324			6, 208	31,688	51,803
Quebec	10				0,100	01,000	200,010	02,001			0,200	52,000	01,000
Ontario	18	23, 395	49, 111	132, 136	23,982	319,544	713,517	376, 451			28, 475	167, 635	382,110
Manitoba	2	)	10,111	100, 100	20,000	010,011	120,021	0,0,201			20, 110	101,000	002, 110
Saskatchewan		1, 147	2, 416	5, 396	1,089	9,212	21, 761	11,653			1,312	6,475	11,572
Alberta	3		-, -, -, -, -, -, -, -, -, -, -, -, -, -		2,000	0,220	22,102	11,000			2,018	0, 1.0	11,010
British Columbia	6	487	998	2,651	807	10,414	16,927	6,073			598	3,373	6,064
Yukon and Northwest Territories	_	_	_	100				_	_	_	_		
m. s. l.													
Totals	41	30, 101	63, 319	165,556	31, 639	391,866	860, 755	445, 501		-	36, 593	209, 171	451, 549
						Lagran							
1963													
Newfoundland	_	-		_		_	_	_	_	_	_	-	_
Prince Edward Island	-	_	_		-	_		_	_	_	_	_	_
Nova Scotia	2	х	x	x	x	х	x	x	-	-	x	x	х
New Brunswick	-	_	-	_	-	_	_	1000	-	4940		-	_
Quebec	10	2,398	5,348	12,090	3,854	25, 861	58, 594	29, 843	_	-	2, 935	15,305	30,066
Ontario	17	24, 609	51,466	142, 695	26,801	356,498	801,310	424,807	_	_	30, 146	181,628	430,704
Manitoba	2	x	x	х	х	х	x	x	_		х	х	х
Saskatchewan	wheels	_	_	_		_	_	_	_	_	_		-
Alberta	2	х	х	x	x	х	х	х	_	-	х	х	х
British Columbia	6	555	1,215	3, 125	843	10,215	19, 274	7, 735	_	-	732	4, 205	7,842
Yukon and Northwest Territories	-	-	-	_	-	_	_	-	_	- 8-	-	-	41-
Totals	39	31, 112	66,924	180,359	35, 082	436, 597	963, 206	499, 303	-	-,	38, 196	228, 217	505, 747

TABLE 1B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1962 and 1963

				Man	ufacturing	activity					Total act	ivity	
Size group	Estab- lish- ments		duction :		Cost of	Cost of	Value of shipments of goods	Value		owners		otal oyees	Total
		Number	Man- hours paid	Wages	elec- tricity	and supplies	of own manu- facture	added	Number	With- drawals	Number	Salaries and wages	value added
	No.		'000			\$'000				\$'000		\$'(	000
1962													
der \$10.000													
10,000 to \$ 24,999					_	_		_	_	_	-	_	
25,000 " 49,999	_	-	_	_		_	_	_	_	_		_	
50,000 '' 99,999 100,000 '' 199,999	, -	_	_	-	_	-	-	-	_	_	_	_	
200,000 '' 499,999	3	79	164	351	53	207	826	561	_	-	91	448	5
500,000 " 999,999	5	273	582	1,219	196	1, 172	3, 646	2, 299	-	_	359	1, 613	2.2
000,000 '4,999,999	14	1,508	3, 231	6,606	1,732	11,836	30,028	16,766	_	_	1,875	8,677	16, 9
000,600 and overad offices, sales offices and	19	28, 241	59,342	157, 380	29,659	378,649	826, 254	425,875	-	_	34, 198	197, 954	431,8
uxiliary units											70	478	(
								100	***	4 0 0	10	410	,
Totals	41	30, 101	63, 319	165, 556	31, 639	391, 866	860, 755	445, 501	-	-	36, 593	209, 171	451, 5
1963													
der \$10,000	_	_	_	_	751L			_	_				
10,000 to \$ 24,999	-	_	-	_	-	_	_	-	_	_	_	-	
25,000 '' 49,999 50,000 '' 99,999	-	-	-			_	_	-	_	-	-	-	
100,000 " 199,999	_	_	_	_	-		_		_	_	_	-	
200,000 ' 499,999	} 5	165	343	783	136	715	2,666	1,466		-	200	1 000	, -
500,000 ' 999,999 000,000 ' 4,999,999	)								_	_	206	1,090	1,5
000,000 and over	14 20	1, 584 29, 363	3, 433	7,029 172,546	1,017	9,638	28, 293 932, 247	17,621	_		1.993 35,927	9,413	17, 8 486, 3
ad offices, sales offices and	20	20,000	00,110	2,2,010	00,020	140,214	552, 211	100, 210			30, 321	411,414	400, 3
uxiliary units		***	* * *	* * *			***			4	70	501	(
Totals	39	31 112	66, 924	180 350	35.082	436, 597	063 206	499, 303			99 100	228, 217	505, 7

TABLE 1C. Principal Statistics classified by Size Groups based on Manufacturing Value Added, 1962 and 1963

				Man	ufacturing	activity					Total acti	vity	
Size group	Estab- lish- ments		oduction a ated work		Cost of	Cost of	Value of shipments of goods	Value		owners		otal oyees	Total
		Number	Man- hours paid	Wages	elec- tricity	and supplies	of own manu- facture	added	Number	With- drawals	Number	Salaries and wages	value added
	No.		'000			\$'000				\$'000		\$'0	000
1962					ş-								
Inder \$10,000	_	_		_				mate.		_	_		_
10,000 to \$ 24,999	_	_	_	_	_	_	_			_	_	_	-
25,000 '' 49,999 50,000 '' 99,999	_	-	_	-	-	-	_	-		_	-		-
100,000 '' 199,999 200,000 '' 499,999	8	348	747	1,643	445	1,991	4,805	2, 544	_	-	458	2, 239	2, 670
500,000 '' 999,999	8	738	1,625	3,330	774	7,907	14,987	6,327	_	_	880	4, 140	6, 426
1,000,000 ' 4,999,999 5,000,000 and over	15 10	2, 328 26, 687	4, 915 56, 032	10, 944 149, 639	3, 421 27, 000	37, 267 344, 701	74,338 766,625	34, 337 402, 293	_	_	2, 909 32, 276	14,406 187,908	34, 358 408, 115
auxiliary units											70	478	( 19
Totals	41	30, 101	63, 319	165, 556	31, 639	391, 866	860, 755	445, 501	-	_	36, 593	209, 171	451, 549
1963													
Inder \$10,000	_	_	_	_	_								-
10,000 to \$ 24,999		_	_	_	_	_	_	_			400-	_	
25,000 '' 49,999	-	-	_	-	-	_	_	_	-	-	_	-	
50,000 '' 99,999 100,000 '' 199,999	1	-	-	_	_	_	_	_		_	ant-	-	_
200,000 " 499,999	5	165	343	783	136	714	2, 666	1,466	-		206	1,090	1,58
500,000 " 999,999	6	465	1, 113	2, 161	409	2,772	8,363	4,832		_	589	2,842	4,89
1,000,000 ' 4,999,999	18	2, 841	6,005	13, 915	4, 207	49, 126	92, 390		_		3,598	18,635	40,08
5,000,000 and overead offices, sales offices and	10	27,641	59,463	163,500	30, 330	383, 984	859,787	452, 999	-	-	33, 733	205, 149	459, 20
auxiliary units											70	501	(2
Totals	39	31, 112		180, 359	35, 082	436, 597		499, 303	_		38, 196	228, 217	505, 74

TABLE 1 D. Principal Statistics classified by Size Groups based on Total Value Added, 1962 and 1963

				Man	ufacturing	activity				T	otal activ	rity	
Size group	Estab- iish-		duction a		Cost of	Cost of materials	Value of shipments of goods	Value	Working and pe	owners irtners		otal oyees	Total
	ments	Number	Man- hours paid	Wages	elec- tricity	and supplies	of own manu- facture	added	Number	With- drawals	Number	Salaries and wages	value added
	No.		'000			\$'000				\$1000		\$'0	00
1962													
Under \$10,000	_	_	_	-	-	-	_	_	-	-	-	_	-
\$ 10,000 to \$ 24,999	-	-	_	_	-	_	_	_	-	_	_	-	_
25,000 '' 49,999 50,000 '' 99,999	1 -	-	_	_	_		_					_	
100,000 '' 199,999	8	348	747	1, 643	445	1,991	4,805	2, 544	-		458	2, 239	2,670
200,000 '' 499,999 500,000 '' 999,999	8	738	1,625	3,330	774	7,907	14, 987	6,327	_	_	880	4,140	6,426
1,000,000 '' 4,999,999	15	2,328	4,915	10,944	3, 421	37, 267	74.338	34,337	-	_	2,909	14,406	34. 358
5,000,000 and over	10	26,687	56,032	149,639	27,000	344,701	766,625	402, 293	_	_	32, 276	187, 908	408, 11
lead offices, sales offices and auxiliary units						4 4 8			***		70	478	(19
	41	30, 101	62 210	165, 556	31, 639	391, 866	860,755	445 501	-	_	36, 593	209, 171	451, 549
Totals	41	30, 101	63, 313	103, 330	31, 633	391, 600	800, 133	773, 301	3		30, 303	203, 111	40 X, 0 40
1963													
Under \$10,000	_	_	_		_	_	_	_	_	_	_	_	_
10,000 to \$ 24,999	_	_	_	_	_	_	_	-	-	-	-	-	-
25,000 '' 49,999	-	=	-	_	_	_	_	-		_			
50,000 " 99,999 100,000 " 199,999	, -		-										1
200,000 ** 499,999	} 5	165	343	783	136	714	2,666	1,466	-	_	206	1,090	1,58
500,000 " 999,999	6	465	1, 113	2,161	409	2,772	8,363	4,832	-	-	589	2,842	4,89
1,000,000 '4,999,999 5,000,000 and over	18	2,841 27,641	6,005 59,463	13,915 163,500	4,207	49, 126 383, 984	92,390 859,787	40,006	=		3,598	18,635 205,149	40,08
lead offices, sales offices and auxiliary units		21,041	35, 103	103,300				132,000			70	501	(2
Totals	39	21 112	66 024	180, 359	35,082	436, 597	963, 206	400 202			38, 196	228, 217	505, 74

TABLE 1 E. Principal Statistics classified by Size Groups based on Total Employed, 1962 and 1963

				Manu	facturing	activity				Т	otal activ	rity	
Size group	Estab-		duction a		Cost of	Cost of	Value of shipments			owners		tal oyees	Total
	ments	Number	Man- hours paid	Wages	fuel and elec- tricity	materials and supplies	of goods of own manu- facture	Value added	Number	With- drawals	Number	Salaries and wages	value added
	No.		*000			\$,000				\$,000		\$'0	00
1962													
Under 5 employed	3	69	150	298	63	386	1,004	577	-	-	76	347	570
15- 49 '' 50- 99 '' 100-199 '' 200-499 '' 500 employed and over	9 12 8 9	455 1,277 2,031 26,269	1,009 2,763 4,359 55,038	2, 283 5, 886 10, 227 146, 862	591 1,506 3,002 26,477	5,379 22,841 29,323 333,936	11, 451 38, 892 59, 364 750, 044	5,657 13,745 28,264 397,258	=	=	604 1,598 2,427 31,818	3,199 7,648 12,664 184,834	5.825 13,742 28,331 403,100
Head offices, sales offices and auxiliary units						• • •					70	478	( 19
Totals	41	30, 101	63, 319	165, 556	31, 639	391,866	860,755	445, 501	-	-	36, 593	209, 171	451, 549
1963										1.51			
Under 5 employed	3 6 12 9 9	74 326 1,252 2,244 27,216	147 704 2,801 4,914 58,358	339 1,598 6,229 11,727 160,467	81 281 1,602 3,358 29,760	31,170	1, 469 9, 578 46, 377 62, 678 843, 105	624 4,344 18,378 29,722 446,235	=	-	97 421 1,582 2,741 33,285	14,871 201,957	744 4,395 18,454 29,725 452,450
Totals	39	31, 112	66, 924	180, 359	35, 082	436, 597	963, 206	499, 303	-	-	38, 196	228, 217	505, 74

TABLE 1F. Principal Statistics classified by Type of Organization, 1962 and 1963

				Man	ufacturing	activity				Т	otal acti	vity	
Type of organization	Estab- lish-		oduction ated work		Cost of	Cost of	Value of shipments			owners artners	Total employees		Total
	ments	Number	Man- hours paid	Wages	fuel and elec- tricity	materials and supplies	of goods of own manu- facture	Value added	Number	With- drawals	Number	Salaries and wages	value added
	No.		1000			\$'000				\$'000		\$'(	000
1962													
Individual ownerships	_	_	_	_	_	_	-	-	_		-	_	-
Partnerships	_	_		_	_	_	-	_	_	_	_	_	
Incorporated companies	41	30, 101	63,319	165,556	31,639	391, 866	860,755	445,501			36,523	208,693	451, 569
Cooperatives	_	_	_			-	-	-	-	-	-	-	-
Head offices, sales offices and auxiliary units					4 4 8	* * *					70	478	( 19
Totals	41	30, 101	63, 319	165,556	31,639	391, 866	860,755	445, 501	_	-	36, 593	209, 171	451, 549
1963													
Individual ownerships	_	-	_	_	-	_	-	-	_	_	_	-	-
Partnerships	-	-	-	-	_	_	_	_	_	_	_	_	_
Incorporated companies	39	31, 112	66,924	180, 359	35, 082	436, 597	963, 206	499,303		4 4 0	38, 126	227,716	505,768
Cooperatives	_	_	-	_	_	_	_	-	_	_	-	-	-
Head offices, sales offices and auxiliary units								4 + 4	***		70	501	( 21
Totals	39	31, 112	66, 924	180, 359	35, 082	436, 597	963, 206	499,303	_	-	38, 196	228, 217	505, 747

TABLE 2. Industry Output, Input and Value Added, 1962 and 1963

	Manufacti activit		cturing	Total activi		
	1962	1963	1962	1963	1962	1963
			\$'000			
Output						
. Shipments and other revenue	860,755	963, 206	15,652	18,575	876, 407	981,781
Inventories - Goods of own manufacture:						
Add closing - Goods in process	38, 517	43, 457			38, 517	43, 457
Finished goods	40, 248	43, 570			40,248	43,570
Less opening - Goods in process	33, 178	39, 571	4 4 9		33, 178	39,571
Finished goods	37, 335	39,680			37, 335	39, 680
Net inventory change	8, 252	7,776		* * *	8, 252	7,776
Gross output (1+2)	869,007	970, 982	15, 652	18, 575	884, 659	989,557
Input						
Purchases of goods not of own manufacture			7, 458	9,657	7,458	9, 65'
Inventories - Goods not of own manufacture:						
Add opening	* 4 4		570	711	570	711
Less closing			605	1,033	605	1, 033
Cost of goods sold (not of own manufacture)			7, 423	9,335	7,423	9,33
Materials, supplies, components and semi-processed goods	391,866	436, 597	2, 180	2,795	394,046	439, 39
Fuel and electricity	31,639	35, 082			31,639	35,08
Gross input (5 + 6 + 7)	423,505	471, 679	9,603	12, 130	433, 108	483,809
Census value added (3-8)	445, 501	499, 303	6, 049	6, 445	451, 549	505, 74

TABLE 3. Employment and Payroll, 1962 and 1963

					Emplo	yees						Salari	es and wa	ages	
Year and province		Product: related			tra	inis- tive	8.1	les nd bution		etal oyees	Product related		Admin- istra-	Sales	Total salaries
province	Manufa	cturing	Ot	ther	taria (	711.00	410011	0001011					tive and	distri- bution	and
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Manufac- turing	Other	office		
All the seasons were the second paper to the s					numl	er							\$'000		
1962															
Newfoundiand	_	_	_	_	_	-	_	_	-	_	_	-	_	_	_
Prince Edward Island	_	-	_	_	_	_	_	_	_	_	_	_	_	_	_
Nova Scotia	)														
New Brunswick	5,063	9	22	_	964	115	29	6	6,078	130	25, 372	108	5, 998	210	31,68
Quebec															
Ontario	23, 206	189	418	8	3,486	759	288	121	27, 398	1,077	132, 136	2,711	30, 214	2,573	167, 63
Manitoba	1								P.						
Saskatchewan	1, 147	_	3	-	127	26	8	1	1, 285	27	5, 396	10	990	79	6,47
Alberta															
British Columbia	487	_	-	_	93	12	6		586	12	2,652	_	683	38	3,37
Yukon and Northwest Terri- tories	_	_	_	_	_	_	_	_	_	_	_	_	_		_
Totals	29,903	198	443	8	4,670	912	331	128	35, 347	1,246	165, 556	2,829	37, 884,	2,901	209, 17
1963															
Newfoundland	_	_	_	-	-	_	-		_	_	_	_	_	-	_
Prince Edward Island	_	_	_		-	_	_	_	_	_	-	_	_	_	_
Nova Scotia	x	_	x	_	x	x	х	x	x	x	x	x	x	x	x
New Brunswick	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
Quebec	2,394	4	-	_	455	50	27	5	2,876	59	12,090	_	3,033	183	15.30
Ontario	24, 413	196	587	9	3,726	779	313	123		1, 107	142,695	4,202	32, 205	2,526	181, 62
Manitoba	x	_	x	_	x	x	_	_	x	x	x	x	x	_	x
Saskatchewan	_	_	_	_	_	_	-	_	-	_	_	_	_	_	
Alberta	x	_	_	_	х	x	x	x	x	x	x	_	x	x	x
British Columbia	555	-	_	_	134	19	20	4	709	23	3, 125	-	931	150	4, 20
Yukon and Northwest Terri-															
tories	_	-		_	_	117	-		-	_	T	-	_	_	
Totals	30,912	200	605	9	5,003	952	376	139	36, 896	1, 300	180, 359	4, 293	40, 564	3,001	228, 21

TABLE 3 A. Production and Related Workers, - Manufacturing Activity, by Months, 1962 and 1963

	Estab	lishments report	ing monthly deta	ail
Month	196	2	196	3
	Male	Female	Male	Female
		numbe	r	
January	27, 506	195	29, 484	191
February	28, 125	189	29,793	190
March	28, 592	190	29,635	192
April	29, 261	184	30,638	199
May	30,329	197	31, 146	199
June	30,913	199	31, 257	205
July	31, 179	207	31,602	210
August	31,504	218	31,625	216
September	31, 327	218	31,733	222
October	30,339	213	31,432	217
November	30,136	180	31,158	213
Dec <b>ember</b>	29,591	188	31, 398	215
Average for establishments reporting monthly detail (collected only for large establishments)	29,903	198	30,912	200
Average for small establishments (only annual averages collected)				×
Average for all establishments	29,903	198	30,912	200

TABLE 4. Industry Inventories, 1963

		Manui	acturing		Non- manufacturing	
Province	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total manufacturing	Products or materials purchased for resale	Total inventories
Opening:			book val	ue \$'000		
Newfoundland						
Prince Edward Island	_	_	_		-	-
			_	_	_	_
Nova Scotia	x	х	Х	X	х	x
Quebec			_		x	_
Ontario	5, 628	3,397	2, 565	11, 590	79	11.66
Manitoba	79,523	32, 901	33, 261	145, 685	544	146, 22
	X	х	Х	Х	4900	х
Saskatchewan	-	_	_	_	-	-
Alberta	X	x	X	X	-	x
British Columbia	1, 283	93	1,530	2,906	85	2, 99
Yukon and Northwest Territories	-	-		_	_	_
Totals	101, 667	39, 572	39, 680	180, 918	711	181, 62
Closing:					i.	
Newfoundland						
Prince Edward Island						
Nova Scotia	x	x	x	x -		_
New Brunswick	_ 1		_	^	X	х
Quebec	5, 146	3,705	3, 221	12,073	-	
Ontario	89, 886	36, 481	36, 477	162,843	82	12, 154
Manitoba	1	X	X X	102,843	871	163,714
Saskatchewan	_	^	^			х
Alberta	x	x	x -	x -	-	-
British Columbia	1, 157	171	970	-		X
Yukon and Northwest Territories	1,101	171	970	2, 298	77	2, 375
Totals	114, 247	43, 457	43, 570	201, 274	1, 033	202, 30

TABLE 5. Purchased Fuel and Electricity Used in Manufacturing Activity, 1962 and 1963

Description	1	1962		1963	
Description		Quantity	Cost	Quantity	Cost
			\$'000		\$'000
<ol> <li>Large establishments which reported commodity detail:</li> </ol>					
Bituminous coal:		and the same			
	ton	36,664	347	62,851	545
(b) Imported	44	54,324	576	72,061	769
Sub-bituminous coal (from Alberta mines only)	44	-	- 1	may.	_
Anthracite coal	9-6	_		_	_
Lignite coal	44	-	_	_	_
Coke	49	5,274	99	438	10
Gasoline (including gasoline used in cars and trucks)	p. gal.	889,970	237	968, 176	241
Fuel oil including kerosene or coal oil	11	144.798.787	11,994	167,350,470	14.017
	cord	202	2	187	2
Gas:			-	201	
(a) Liquefied petroleum gases Imp	n. gal.	204.142	42	782,295	102
(b) Other manufactured gas M	_		- 1	102,200	102
(c) Natural gas	14	7, 195, 594	3,575	8,747,570	4,045
Other fuel		1,100,004	287	0,141,010	287
	kwh.	2,758,613,515	14.481	2,876,939,403	15,063
Steam purchased	D. W. 64.	2, 130,013,313	17, 201	2,010,939,403	15,003
becam purchased		_	_		
2. Estimate for small establishments:					
Fuel and electricity		_	-	700	
3, All establishments:	201			110	
Total fuel and electricity used		4 . 4	31,639	4 1 1	35,082

TABLE 6. Materials and Supplies - Manufacturing Activity, 1962 and 1963

Description		196	2	190	53
		Quantity	Cost	Quantity	Cost
aterials used:			\$'000		\$'000
Coke, gas and by-products section					
Bituminous coal carbonized in ovens or retorts:					
From Canadian mines Imported	ton	400, 613 4, 538, 280	4, 340 51, 142	478, 469 4, 716, 113	5, 0 53, 2
Absorbing and wash oil		394, 382	88	241,779	00, 2
Caustic soda Sodium nitrate	lb.	2, 487, 740	68	1,908,737	
Sulphur	ton	130, 408	5 30	169,098	
Sulphuric acid, 100%:	41				
Purchased		18,358 2,649	348	16,061 2,342	
Sinter plant and blast furnace section					
Sinter plant: Crude iron ore:					
From Canadian mines	+ 4	464, 897	5, 109	578, 185	5, 8
Imported	0.0	1,071,069	11, 355	823, 571	8, 6
Pyrite cinder	4.4	15, 574	79	21,976	
Purchased	4.4	1, 219	13	6.819	
Own make	11	410, 424		476,778	
Scrap iron and steel (own make) Limestone (including fines)	4.4	16,079		36, 222	
Dolomite (including fines)	4.4	73, 208 149, 967	26 5 234	69,300 99,343	
Coke (including breeze):	4.4		201	00,010	
Purchased Own make	44	14,816	131	13, 498	
Blast furnace:		91, 939	* * *	72,950	
Crude iron ore:	- 11	015 000			
From Canadian mines Imported	41	915,080 1,815,257	8, 549 19, 491	710,024 I,776,952	6, 5
Iron ore (sintered, pelletized, etc.):	41		25, 40 1	1,110,002	10,
From Canadian mines	41	1, 482, 514	18, 412	2,073,137	26, 6
Imported From own processing (does not include mine sinter plant)	44	2, 419, 695 1, 878, 610	34, 104	3,050,640 1,747,067	43, 5
Mill cinder, roll scale, slag and flue dust (not sintered, pelletized, etc.):	**				٠
PurchasedOwn make	4.6	29,829 187,009	38 4	44, 775	2
Scrap iron and steel:		101,008		140, 142	
Purchased	11	79,895	7 36	48, 386	4
Own make		14,065	***	29,643	
From Canadian quarries	1.0	386, 303	967	427, 784	1,0
Imported	44	331,694	568	333, 748	
Coke:		396, 863	711	428,044	7
Purchased	4.0	110, 176	2,404	137, 433	2,9
Own make Firebrick, fireclay and other refractories, n.e.s.		3, 269, 124	488	3, 441, 933	
Steel ingots and steel castings					
Pig iron:					
Purchased Own make	ton	16, 444 4, 545, 508	788	13, 479 5, 169, 191	6
Scrap from and steel:		4, 040, 000		0, 109, 191	
Purchased	44	1, 297, 784	43, 865	1, 559, 920	45, 8
Own make		1,891,994		2, 166, 518	
Purchased	7.6	16,794	238	-	
Coke (charged to furnace; not for fuel): Purchased	4.6	1, 363	31	941	
Own make	4.6	1, 346	21	1, 171	
Ferromanganese: High carbon (over 3 per cent carbon)	14				
Medium carbon	44	43,727	7,620 1,441	52, 387 5, 117	8, 5
Low carbon (maximun 0.75 per cent carbon)	11	428	209	389	1, 1
ilico manganese	10	9, 279	1, 99 5	10, 39 2	2, 1
Low silicon grade (under 45 per cent silicon)	4.4	44	4	65	
Medium silicon grade	4 6	11, 222	1,652	12, 587	1,8
High silicon grade (over 55 per cent silicon)	11	1,691	46 I	2,009	5
'errochrome (including chrom-X):		24	15	62	
High carbon	44	2, 353	816	2,630	8
Low carbon (maximum 2 per cent carbon)	0.0	6, 114 305	2,724	5, 752 351	2, 1
a rophosphorus	12	336	39	320	7
*rroselenium	44	3	27	4	
rrotitanium rrotungsten	44	1 23 57	79 122	90	1
	47	220	747	229	8
orrovanadium					
arrozirconium arrozirconium arcium silicon	44	58 37.4	27 173	65 476	2

TABLE 6. Materials and Supplies - Manufacturing Activity, 1962 and 1963 - Concluded

Description		19	62	19	63
Description		Quantity	Cost	Quantity	Cost
			\$'000		\$'000
Materials used — Concluded:					
Steel ingots and steel castings section - Concluded					
Other ferro-alloys	ton	2,050	710	2, 361	8
Iron ore, crude Iron ore, calcined, roasted or treated		106,580	1,765	197.547	3, 1
Chrome ore	***************************************	254, 057 547	4, 152	216, 211	3, 5
		185	201	367 180	
Aluminium ingots, shot, etc. Copper ingots, cakes, shot, etc.	4.4	2, 291	1, 160	2.716	1, 3
NICKEI INKOLS, CALNOGES, Shot, etc.		240 2, 534	140 4,211	188 2,842	4.
Other metals		180	243	1, 209	
Charcoal Bentonite	4.6	4,352	8 184	69	
Dolomite:		1,002	104	4,706	
Raw, crushed	66	113, 593	295	135,739	
Calcined		90, 269	2, 316	100, 415	2,
Fluorspar Ganister	- 11	33,824	1, 179	41,822	1,
Graphite		972	58	1,330	
Lime Limestone		194, 899 180, 208	3, I07 553	208, 253	3, 2
Linseed oil	Imp. gal.	12,316	13	200, 260 14, 594	4
Magnesite	ton	15,049	1,006	13.446	
Electrodes Silica sand:	**********	***	2, 185	***	2, :
For moulds	ton	85,512	724	89,861	7
Other foundry sands		3, 863	93	6, 393	
Sulphur Firebrick, fireclay and other refractories, n.e.s.		165	25 13, 865	214	14,
MOLYDGEDUM Trioxide (Mollibdic Oxide) bridilettes	ton	564	1,219	565	1,4
Ingot moulds (including hot tops) and stools	************	9 4 4	9, 121	• • •	I1. I
Rolled steel products section					
Steel ingots:	Ann	04 001	5 004	100 500	
Purchased Own make	ton	84, 281 6, 690, 555	5,634	108, 506 7, 652, 045	6,9
Steel Diffets and Stads		93,675	9, 251	89,837	8,
Steel bars Wire rods		40, 961	6,344	51,699	8,0
Rails, old (include reject rails)	11	2, 684 62, 673	394	3, 258 84, 767	4.
		34.688	4,771	42,084	7, (
Scrap iron and steel incl. old axles Tin		3, 179 2, 864	160 6, 165	6, 833 2, 717	6,6
Zinc speiter		23, 851	5, 536	25, 744	6, 3
Acids:		040 400	=0	200 000	
Chromic Hydrochloric (muriatic)	6.6	249, 400 801, 190	70 67	302,900 1,051,932	
Sulphuric, 100% Cleaners (Pennsalt, etc.)	ton	37, 223	860	40,993	9
Cleaners (Pennsalt, etc.)	**********		285		
Inhibitors (Rodine, etc.) Phenone	10.	69, 350	11 76	36, 374	
ROTTING OTTS			1, 121		1,3
Zinc aminonium chioride	ton	103	28	203	
Firebrick, fireclay and other refractories, n.e.s. Rolls and dies	***********		6,723	***	7,
Silica sand	ton	* * *	0,120	589	, ,
Ferro-alloys section					
Coal: Anthracite	ton	17,704	272	16,768	2
Bituminous	0.6	31,500	519	36, 131	5
Coke: Petroleum	44	32, 969	602	25,806	
Other		45, 171	650	46,049	4
Dolomite		5,410	17	5.434	
Electrodes Firebrick, fireclay and other refractories, n.e.s.			922 132	• • •	9
Lime	ton	5,536	71	4,320	
Limestone	46	2,075	10	4,309	
Linseed oll Magnesite	ton	13, 024 271	27 23	9,000	
Millscale		1, 249	12	17	
Pitch		7,979	364	8, 428	3
Quartzite Silica sand		47,595 3,291	368 34	97,588 2,515	7
Steel scrap (borings, turnings, etc.)	11040,000	31,508	560	36, 434	6
Woodchips All other materials and components used	**********	30,424	243 11,041	34.573	12, 1
ntainers and other packaging materials and supplies used					
perating, maintenance and repair supplies used (excluding fuel)			4,313	***	4, 3
		***	44, 559	* * * *	50, 8
nount paid out to others for work done on materials owned by establishments			3, 164	4 * *	7,(
Totals			391,866	***	436,5

! ABLE 7. Shipments of Selected Goods of Own Manufacture — All Industries, 1962 and 1963 (Includes shipments from other industries which manufacture, as a secondary activity, the commodities listed)

	(T. ) . 1	Factors	sales
Product	Total tonnage made	Tonnage sold in Canada or for export	Income from tonnage sold
1962	net	tons	\$'000
A. Hot-rolled products			
Semi-finished rolled forms:			
All semi-finished forms intended for further rolling, including blooms, billets, slabs and sheet bars: For sale in Canada		219, 241	18, 405
For export  Blooms, billets and axle blanks for forging purposes only, whether for own use or for sale to others	117,017	113,122	7,792
Including export	192,706	181,545	21,832
Total semi-finished rolled forms	309, 723	513, 908	48, 029
Rails	233, 067	225, 683	25, 404
Wire rods, No. 5 gauge to 47/64 Inch in diameter (excluding straight lengths over 5/16 Inch in diameter) Structural steel shapes:	356, 262	354, 412	46,010
Heavy, including sheet piling, beams, angles, channels, tees, zees, etc., having one leg or web of 3" and over, and a thickness of 1/8" and over	370, 306	361,060	44,851
Light, including light shapes, angles, channels, etc., having a section smaller than that provided under previous item	92, 136	89, 249	11,808
Total structural steel shapes	462, 442	450, 309	56,659
Bars:			
Bars, hot-rolled, of all grades and of all sections, including bolt, nut, rivet, spike, chain, horseshoe and other miscellaneous bars but omitting all bars reported immediately below	528,760	652, 002	70,825
Bars for concrete reinforcing, including twisted and other deformed bars  Long angle splice bars, tie plate bars and all other long rail joint bars	412, 661 65, 603	385, 752 386	44, 936 54
Total hot-rolled hars	1,007,024	838, 140	115, 815
Plates (excluding plate for pipes and tubes)	489,363	491, 533	61,815
Skelp' hot and cold-rolled plate, sheets, strlp and bars for pipes and tubes)  Other hot-rolled sheets and strip including material for further cold reduction and all other hot-rolled forms	413, 478 2, 216, 797	357, 017 591, 221	41,333
B. Cold-rolled and coated products <sup>1</sup>			
Bars, cold-rolled and cold-drawn	49,544	50,210	15,670
Cold-rolled strip Other cold-rolled and coated products, including cold-reduced sheets, black plate for tinning and other	57, 227	57,961	17, 235
black plats, galvanized sheets and strip, tin plate, sillcon sheet and strip, but excluding cold-rolled skelp	1,754,721	942,768	154, 143
C. Other products	1,101,121	54£, 106	104, 140
Rail fastenings:			
Rail joints, including splice bars and rish plates  Tie plates	10,613 53,765	10.624 54,554	1,586 7,238
1963	00,100	01, 001	1, 200
A. Hot-rolled products			
Semi-finished rolled forms:			
All semi-finished forms intended for further rolling, including blooms, billets, slabs and sheet bars:  For sale in Canada		206, 739	19, 187
For export  Blooms, billets and axle blanks for forging purposes only, whether for own use or for sale to others	111,364	105, 110	7,413
Including export  Rounds or billets for seamless tubes including export	203, 048	185, 899	22, 231
Total semi-finished rolled forms	314,412	497, 748	48,831
Rails	342, 299	334, 422	35,707
Wire rods, No. 5 gauge to 47/64 Inch in diameter (excluding straight lengths over 5/16 Inch in diameter) Structural steel shapes:	389,745	392, 533	52,421
Heavy, including sheet piling, beams, angles, channels, tees, zees, etc., having one leg or web of 3" and over, and a thickness of 1/8" and over	399,334	385, 685	48, 209
Light, including light shapes, angles, channels, etc., having a section smaller than that provided			
under previous item  Total structural steel shapes	110, 312 509, 646	110, 649 496, 334	14, 160 62, 369
Bars:	503, 040	4301 BB#	04,303
Bars, hot-rolled, of all grades and of all sections, including bolt, nut, rivet, spike, chain, horseshoe and other miscelianeous bars, but omitting all bars reported immediately below	596, 369	527.392	84,412
Bars for concrete reinforcing, including twisted and other deformed bars  Long angle splice bars, tie plate bars and all other long rail joint bars	427, 622 66, 006	409, 342	47, 892
Total hot-rolled hars	1,089,997	936, 734	132,304
Plates (excluding plate for pipes and tubes)	560, 148	545, 370	68,363
Skelp¹ (hot and cold-rolled plate, sheets, strip and bars for pipes and tubes)	488.639 2,553,214	427, 236 738, 990	49, 808 88, 018
B. Cold-rolled and coated products <sup>1</sup>			
Bars, cold-rolled and cold-drawn	62, 303	60,666	18,594
Cold-rolled strip	60,433	60, 235	8,160
black plate, galvanized sheets and strip, tin plate, silicon sheet and strip, but excluding cold-rolled skelp	1, 953, 815	1,099,889	179, 397
C. Other products	2,000,010	-, -00, 000	210,001
Rail fastenings:		ATURE	
Rail joints, including splice bars and fish plates	13,553	13, 476 51, 781	2,009
Tie plates	50,050		6,883

TABLE 8. Production1 of Pig Iron and Sales1 by Producers-All Industries, 2 1962 and 1963

	Total	Sales		
Grade	tonnage made	Quantity	Income from sales	
	net to	18	\$'000	
1962				
Basic Foundry Malleable	4,561,273 254,807 460,673	52,854 357,439 404,550	2, 937 17, 210 22, 825	
Totals	5, 276, 753	814, 843	42, 972	
1963				
Basic	5,095,081 312,651 525,538	65, 910 332, 303 360, 300	3,672 14,082 26,557	
Totals	5, 933, 270	758, 513	38, 311	

Includes the output from smelting of titanium ores.
 Includes data from other industries which manufacture, as a secondary activity, the commodities listed here.
 Includes silvery pig.

TABLE 9. Production1 of Pig Iron, by Grades, 1954-63

Year	Basic	Foundry	Malieable	Total
		net to	ns	
954 955 956 957 958 960 961 962	1,740,712 2,591,662 2,990,222 3,209,411 2,665,705 3,552,965 4,203,578 4,203,578 4,561,273 5,095,081	167, 797 176, 710 150, 354 104, 830 43, 755 228, 843 290, 050 386, 644 254, 807 312, 651	302, 520 446, 995 427, 627 404, 109 350, 119 401, 006 410, 204 355, 799 460, 673 525, 538	2, 211, 02 3, 215, 36 3, 568, 20 3, 718, 35 3, 059, 57 4, 182, 77 4, 298, 84 4, 946, 02 5, 276, 75 5, 938, 27

Includes silvery pig.
 Commencing with 1959, includes the output from smelting of titanium ores.

TABLE 10. Production1 of Pig Iron, by Months, 1962 and 1963

	1962			1963			
Month	For own use	For saie	Total	For own use	For sale	Total	
			net to	ons			
January Pebruary March April May June July	386, 745 363, 124 414, 201 397, 987 389, 551 403, 649 405, 058 371, 937 362, 703 327, 680 281, 453	32, 130 30, 012 32, 784 53, 445 73, 527 97, 968 87, 679 87, 276 73, 411 65, 725 71, 156	418, 875 393, 136 446, 985 451, 432 463, 078 471, 178 491, 328 492, 334 445, 348 428, 428 398, 836 387, 975	384, 873 356, 780 423, 642 450, 414 484, 637 458, 957 469, 610 468, 436 412, 677 413, 562 412, 979 419, 473	24, 182 21, 339 27, 375 31, 796 53, 503 75, 048 69, 661 77, 036 92, 124 115, 134 105, 219 66, 540	409,058 378,118 451,017 482,210 538,140 534,008 539,277 545,472 504,801 528,696 518,198 486,013	
Totals	4, 477, 298	811, 635	5, 288, 933	5, 156, 040	758, 957	5, 914, 99	

1 See footnotes to Table 8.

Note: Above breakdown developed from a special monthly report on primary iron and steel and does not reconcile precisely with total shown on Table 8 or 9 because of the preliminary status of monthly figures.

TABLE 11. Sales' of Pig Iron by Producers, 1954-63

Year	Tonnage sold	Income from sales	Year	Tonnage sold	Income from sales
1954	net tons 455, 552 609, 978 649, 213 734, 353 429, 708	\$'000 22,142 30,539 34,501 40,953 24,878	1959	net tons 662, 341 676, 964 783, 188 814, 843 758, 513	\$'000 36, 280 36, 160 39, 966 42, 972 38, 311

1 See footnotes to Table 8.

TABLE 12. Stocks of Pig Iron at Year-end by Producers in Canada, 1954 - 63

Year	Net tons	Year	Net tons
954	127, 894	1959	246,742
955	136, 415	1960	318,063
956	113, 629	1961	369,547
957	233, 569	1962	212,353
958	239, 598	1963	197,630

Note: See also data in Table 8.

TABLE 13. Consumption of Pig Iron in Canada by Industries and by Provinces, 1962 and 1963 (As Reported by Consumers)

	1962	1963
By industries	ne	tons
Agricultural Implements Boiler and plate works Electrical products Fabricated structural metal Hardware, tool and cutlery Heating equipment Iron and steel mills Iron foundries Miscellaneous machinery Miscellaneous machinery Motor vehicles Motor vehicle parts and accessories Railroad rolling stock Shipbuilding and repair Miscellaneous  Totals	6,490 669 4,873 318 125 8,159 4,561,952 137,819 8,950 10,310 3,380 33,279 6,399 353 58,266 4,841,342	6,977 501 5,426 185 122 6,273 5,182,670 164,785 11,098 8,598 5,133 40,202 5,680 557 64,486 5,502,693
By provinces		
Prince Edward Island Newfoundland and Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	447,532 1,934 30,251 4,357,044 2,802 -260 1,519	556, 193 1, 668 101, 332 4, 839, 153 2, 797 476 1, 074
Canada	4, 841, 342	5, 502, 693

Note: Data in Table 13 by industry reflect classification in accordance with revised Standard Industrial Classification adopted in 1980 and the New Establishment Concept adopted in 1961.

TABLE 14. Blast Furnaces in Canada, 1961-63

Nome of company	I continue of plant	Number	Total	Number of days in blast			
Name of company	Location of plant	of stacks	annual capacity	1961	1962	1983	
			net tons				
Dominion Foundries & Steel Ltd.	Hamilton, Ont.	1 1 1	500,000 500,000 550,000	365 365	224 151 365	365 208 365	
	Totals	3	1, 550, 000	210,000	-	_	
Dominion Steel & Coal Corporation, Limited	Sydney, Nova Scotia	1 1	299,000 365,000	263 362	216 383	365 364	
	Totals	2	664,000	-	-	-	
Canadian Furnance Company, Limited	Port Colborne, Ont.	1	210,000	277	193	239	
	Totals	1	263	-	-		
The Steel Company of Canada, Limited	Hamilton		1, 935, 000	361 298 349 354	365 364 365 364	364 360 318 359	
	Totals	4	1,935,000	_	-	-	
Algoma Steel Corporation, Limited	Sault Ste. Marie, Ont.	1 1 1 1	300,000 200,000 750,000 750,000	240 222 365 361	314 362 364 311	340 363 365 330	
	Totals	4	2, 000, 000	-	-	_	
Totals for Canada		14	6.359.000	-	-	_	

Note: Data in above table do not include details on other producers of pig iron in Canada as follows:

1. Electric furnace operations used in smelting titanium ores rated at approximately 354,000 tons pig iron per annum operated by Quebec Iron and Titanium Corporation at Sorel, Quebec.

2. One electric furnace used in direct reduction of iron ore rated at 40,000 tons pig iron per annum operated by the Consolidated Mining and Smelting Co. of Canada Ltd., Kimberley, British Columbia.

TABLE 15. Production of Steel Ingots and Steel Castings, and Sales by the Producers - All Industries, 1962 and 1963

		1962			1963	
	Total tonnage of	Se	ales	Total tonnage of	Sa	les
	steel made (all kinds), including alloys	Quantity	Income from sales	steel made (all kinds), including allovs	Quantity	Income from sales
	net t	ons	\$'000	net to	ons	\$,000
Steel ingots:  Basic open-hearth <sup>2</sup> Electric  Totals, steel ingots	6, 394, 451 653, 851 7, 048, 302	156,620 96,894 <b>253,514</b>	10,077 12,200 22,277	7,321,572 749,390 8,070,962	153,992 122,634 276,626	9,801 14,779 <b>24,580</b>
Steel castings:  Basic open-hearth  Electric	3, 125 122, 107	961 122,073	494 52,325	2, 643 123, 465	356 115,663	195 52, 594
Totals, steel castings	125, 232	123,034	52,819	126, 108	116,018	52, 789
Totals, steel ingots and castings	7, 173, 534	376, 548	75,096	8, 197, 070	392, 644	77, 369
Alloy steel included in above: Ingots Castings	321, 708 32, 439	9, 592 31, 931	6, 628 26, 130	384,957 34,534	10,087 32,658	7,551 27,293
Totals	354, 147	41, 523	32, 758	419, 491	42,745	35,844

 $<sup>^1</sup>$  Includes details from other industries which manufacture, as a secondary activity, the commodities listed here.  $^2$  Includes production from oxygen vessels.

TABLE 16. Production of Steel Ingots and Steel Castings by Grades - All Industries, 1954-63

Year	Steel ingots			Total steel		
I cat	Open-hearth2	Electric	Open-hearth	Converter	Electric	ingots and castings
			net to	ns		
1954 1955 1956 1957 1958 1959 1960 1961 1962	2,727,730 3,917,151 4.628,777 4,500,737 3,875,470 5,267,282 5,089,660 5,712,846 6,394,451 7,321,572	386, 061 529, 190 551, 644 430, 673 386, 652 532, 074 618, 943 663, 261 653, 851 749, 390	22, 364 25, 953 32, 107 27, 076 15, 880 14, 834 2, 611 2, 830 3, 125 2, 643	95 165 307 20 20 7	58, 780 62, 213 88, 367 109, 643 81, 444 87, 290 97, 894 109, 370 122, 107 123, 465	3,195,030 4,534,672 5,301,202 5,068,149 4,359,466 5,901,487 5,809,108 6,488,307 7,173,534 8,197,070

<sup>&</sup>lt;sup>1</sup> Includes details from other industries which manufacture, as a secondary activity, the commodities listed here,
<sup>2</sup> Commencing with 1954, includes production from oxygen vessels.

TABLE 17. Production of Steel Ingots and Steel Castings, by Months - All Industries, 1959 - 63

Month	1959	1960	1961	1962	1963
			net tons		
January	461, 113	570,057	457, 388	576,052	660,215
February	436,932	551, 557	472, 409	533, 788	590, 780
March	476, 154	595,715	565, 198	602,810	678, 248
April	487, 885	516,318	554, 168	597,659	702,045
May	489, 387	498,408	562,067	603, 154	753,625
June	467, 607	443, 423	565,244	598,708	681, 288
July	482, 256	440,803	539, 337	611,085	657, 443
August	487, 271	431, 469	582,961	651, 274	700, 273
September	503, 146	450,575	562,306	618,726	670, 246
October	536, 909	485, 865	588, 221	598, 331	698, 621
November	542, 858	451,659	534, 325	607,903	713,685
December	550, 210	353, 721	482,700	573,985	683,810
Totals	5,921,728	5, 789, 579	6, 466, 324	7, 173, 475	8, 190, 279

<sup>1</sup> Includes details from other industries which manufacture these commodities, as a secondary activity.

Note: Above breakdown developed from a special monthly report on primary iron and steel and does not reconcile precisely with total shown in Tables 15, 16 or 18 because of the preliminary status of monthly figures.

TABLE 18. Annual Production of Steel Ingots and Steel Castings, by Provinces - All Industries, 1954-63

-Year	Nova Scotia	Quebec	Ontario	Manitoba and Saskatchewan	Alberta	British Coiumbia	Canada
				net tons			
1954	46 2, 59 4	84,777	2, 536, 952	65, 912	676	44, 119	3, 195, 030
19 55	583, 340	99,122	3,716,833	84,055	5,042	46, 280	4, 534, 672
1956	706, 264	131, 286	4, 267, 179	113,056	31, 945	51, 492	5, 301, 202
19 57	740, 364	157, 251	4,004,620	76, 243	43,827	45, 844	5, 068, 149
19 58	597,752	117, 907	3, 504, 215	68,921	36,046	34,625	4, 359, 466
19 59	674, 226	120, 274	4, 905, 424	98, 954	56, 235	46, 374	5, 901, 487
1960	796, 878	169,672	4,609, 221	93, 921	68, 378	71,038	5, 809, 108
1961	523, 627	179, 534	5, 431, 212	197, 100	69,029	87, 805	6, 488, 307
1962	661,883	212, 825	5, 965, 215	176, 628	70, 218	86, 765	7, 173, 534
1963	795,484	234, 118	6, 752, 541	250, 387	73, 157	91, 383	8, 197, 070

<sup>1</sup> Includes details from other industries which manufacture these commodities, as a secondary activity.

TABLE 19. Sales of Steel Ingots and Steel Castings by Producers - All Industries, 1954-63

Year	Tonnage sold	Income from sales	Year	Tonnage sold	income from sales
	net tons	\$'000		net tons	\$'000
9 54	86,066	35, 434	19 59	298, 249	59,005
955	201,114	43, 682	1960	312,989	59, 192
956	164, 288	55,326	1961	370,060	61, 597
957	187, 806	65, 553	1962	376, 548	75,096
9 58	105, 251	42, 581	1963	392,645	77, 369

<sup>1</sup> Includes detalls from other industries which manufacture these commodities, as a secondary activity.

TABLE 20. Production of Alloy Steel Ingots and Castings, 1954-63

Year	Ingots1	Castings <sup>1</sup>	Total
		net tons	
1954	132,976	20, 852	153,828
1955	217, 207	21,928	239, 135
19 56	218,611	27,774	246, 385
1957	213, 101	29,110	242, 211
1958	182,902	19, 470	202, 372
19 59	270,991	22, 936	293, 927
1960	237, 393	24, 241	261, 634
1961	252, 867	26, 268	279, 135
1962	321, 708	32, 439	354, 147
1963	384,957	34, 534	419, 491

<sup>1</sup> Includes details from other industries which manufacture these commodities, as a secondary activity.

TABLE 21. Metal, Ore and Flux Charged to Steel Furnaces, 1954-63

Year	Pig iron	Ferro- manganese alloys <sup>1</sup>	Other ferro- alloys	Scrap iron and steel <sup>2</sup>	Iron ore including sinter	Lime- stone	Dolomite	Fluorspar
				ne	t tons			
19 54	1,767,307	29, 57 1	11,962	1,629,866	203, 119	182,972	135, 987	16,002
1955	2, 554, 433	39,870	17, 443	2, 366, 107	405, 709	219, 147	182, 803	18, 610
19 56	2, 90 2, 367	46, 556	20, 567	2, 865, 563	472, 476	232,065	202, 352	18,979
19 57	2, 875, 324	46, 220	21, 787	2, 625, 963	421,755	199, 681	190,039	16,935
19 59	2, 610, 517	37, 699	15, 539	2, 112, 355	373, 143	124, 189	152, 290	14, 539
19 59	3, 511, 207	48, 230	22,809	2, 951, 186	419,945	140,736	188,041	20,063
19603	3, 510, 892	46, 58 4	23,083	2, 887, 566	393,036	163, 362	164, 074	21, 029
19613	4, 056, 763	52, 116	20,788	3, 183, 533	405, 893	137, 424	194.054	24, 310
19623	4, 56 1, 952	58,041	24,631	3, 520, 481	377, 431	18 2, 0 58 °	203, 862	33, 8 24
100.3	5, 182, 670	68, 285	26, 579	4,065,138	413,758	200, 280	236, 154	41,822

including spiegeleisen, sificospiegeleisen, ferromanganese (all grades) and silicomanganese.

Developed from data reported monthly on Primary Iron and Steel.

10. 1960 does not include materials charged to furnaces by firms reclassified under the new Standard Industrial Classification.

(b) In addition io changes effected in 1960, (see 3 (a) above), totals (except for scrap iron and steel) for 1961 and subsequent years exclude materials to furnaces by firms reclassified in accordance with the New Establishment Concept.

TABLE 22. Steel Furnaces in Canada, December 31, 1963

Туре	Number of units	Size	Total annual capacity
			tons
OH		105	500 000
O.H.	2	225	580,000 390,000
	1	12	30,000
	7	_	1,000,000
Eiec.	1	4	3,000
Elec.	1 1	60	70,000
Elec.	3 1	25 30	45,900 52,800
Elec.	1	2 1/4	7,000 4,700
	6		110, 400
		A.E.	
Elec.	1	3 1	145, 800 32, 700
		, ,	
	2		32, 700
Elec.	1	5 15	6,000
	2	_	6,000
Elec.	2	38	90,000
Elec.	2	6	52,500 5,000
Elec.	1	3	1,800 7,300
	1		3,000
Elec.	1	13	9,750
	1	30	22, 500
			35, 250
Elec.	2	4 828	24,000
	4	180	575,000 575,000
Oxygen vessels	3	106	1,050,000
	9	-	2, 200, 000
	1	6	5,400
Elec.	2	30	9,000 69,600
Elec. (Induction)	2	50	115, 200 800
	7	_	200,000
. Elec.	1	7 %	28,000
Elec.	2	2	6,000
Elec.	2	10	50,850
Oxygen vessels	3	100	1,550,000
	7	- 4	1,550,850
Elec.	6	½0 - 2	15,000
Elec.	3	6 1/4 }	63,000
	4	-	63,000
Elec.	3	1/4.1/2.1	3,900
	3		18,000
O.H.	1 4	115	18,000
O.H. O.H.	5 4	190	3,250,000
О.Н.	î	500	
	14	-	3, 250, 000
Elec.	3	34.2,31/2	
Elec. (Induction)	1	8. 7	9,240
	C.H. O.H. Elec.  Elec.	O.H. O.H. 2 Elec. 1 Elec. 2 Elec. 2 Elec. 1 El	O.H. 2 195 O.H. 2 195 O.H. 2 122  2 12

TABLE 22. Steel Furnaces in Canada, December 31, 1963 - Concluded

	Туре	Number of units	Size	Total annual capacity
				tons
Manitoba:				
Manitoba Roiling Mills, Selkirk	O.H. Elec. Elec.	2 1 1	20 6 9	50,000 23,000 35,000
Totals		4	-	108,000
Dominion Brake Shoe Co, Ltd., Selkirk	Elec.	1 1	3 5	3,000 4,000
Totals		2	_	7,000
Griffin Steel Foundries Limited, Transcona	Elec.	2	8	70,000
Saskatchewan:				
Interprovincial Steel and Pipe Corp. Ltd., Regina	Elec.	2	30	121,600
Alberta:				
Foothills Steel Foundry & Iron Works Ltd., Calgary	Elec.	1 1	2 11/4 }	7, 100
Totals		2	- 1	7, 100
National Castings Ltd., Port MacLeod Premier Steel Mills Ltd., Edmonton Quality Steel Foundries Ltd., Edmonton	Elec. Elec. Elec.	1 2 1	17%	4,000 100,000 1,500
British Columbia:				
A-1 Steel & Iron Foundry Ltd., Vancouver	Elec.	1 1	[接]	1, 500
Totals		2	-	1,500
Consolidated Mining & Smelting Company of Canada Ltd., Trail	Elec.	1 1	1 3	3,600
Totals		2	_	3,600
Reliance Foundry Co. Ltd., Vancouver	Elec.	1	1 1%	2,000
Totals	Elec.	2 3	- 2	6,000 8, <b>000</b>
Vancouver Rolling Mills Ltd., Vancouver Esco Ltd., Port Coquitlam Victoria Machinery Depot Co. Ltd., Vancouver Canadian Summer Iron Works Ltd., Vancouver	Elec. Elec. Elec. Elec.	1 2 2 2	30 ½,3 2 1	86,000 4,600 5,000 2,000

# TABLE 23, Summary of Steel Furnace Capacity, December 31, 1963

	Number of furnaces	Total annual capacity
		net tons
Basic open-hearth  Electric	31 6 92	5,465,900 2,550,000 1,463,340
Totals	129	9, 479, 240
iteel ingots:		
Basic open-hearth Oxygen vessels Electric	28 6 28	5,420,000 2,550,000 1,015,500
Totals	62	8, 985, 500
teel castings	67	493,740
Total ingots and castings	129	9, 479, 240

# TABLE 24. Summary of Steel Furnace Capacity, by Provinces, December 31, 1959-63

	Total annual capacity					
	1959	1960	1961	1962	1963	
			net tons			
Nova Scotia Quebec Dontario Munitoba Saskatchewan Alberta British Columbia	963,000 269,700 5,461,300 154,200 79,300 73,200	963,000 491,500 5,636,600 151,000 125,000 89,500 114,800	1,006,000 483,100 6,452,050 151,000 121,600 90,100 126,900	1,003,000 508,700 6,546,350 185,000 128,000 110,000 123,700	1,003,000 584,350 2,361,990 185,000 121,600 112,600 110,700	

TABLE 25. Net Production<sup>1</sup> in Canada of Hot-rolled Steel Products, 1955-63

Item	1959	1960	1961	1962	1963
			net tons	-	
Blooms, billets and slabs	232,052	412,348	318, 258	309,723	314,412
Rails	286, 989	224, 306	197, 416	233,067	342, 299
Bars for rail fastenings	95, 346	48, 351	58, 993	65, 603	66,006
Wire rods	382, 106	343, 052	356, 574	356, 262	389, 745
Structural shapes	268, 573	241, 392	329, 572	462, 442	509, 646
Bars	854, 519	759, 424	840, 802	941, 421	1, 023, 99
Plates (excluding plates for pipes and tubes)	416,099	387.947	410, 267	489,968°	560, 148
Sheets, hoops, bands and strips (excluding skelp)	1,772,395	1,773,562	1,891,100	2,212,511	2,533,194
Other hot-rolled forms (Including hot-rolled skelp)	359, 635	308, 605	486,728	367, 106	448, 226
Totals	4, 667, 714	4, 498, 987	4, 889, 710	5, 438, 103	6, 187, 66

<sup>1</sup> Inter-mill shipments have been excluded.

TABLE 26. Alloy Steel Products Made and Sold by Rolling Mills, 1962 and 1963

	1962		1963		
	Tonnage made	Tonnage sold	Tonnage made	Tonnage sold	
	net tons				
Bars	102,692	97, 945	162, 463	161,913	
Other products, including plates, billets, forgings, sheet piling and wire rods, etc	87, 036	63,744	135, 598	64, 245	
Total alloy steel	189, 728	161,689	298, 061	226, 158	

TABLE 27. Products Rolled from Axles, etc., 1962 and 1963

	1962	2	1963		
Year	Tonnage made	Tonnage sold	Tonnage made	Tonnage sold	
	net tons				
Bars	37,654	39,026	51,186	45, 355	
Other products	19, 155	17,884	27, 462	26,332	
Totals	56, 809	56, 910	78, 648	71, 687	

TABLE 28. Production and Factory Sales of Steel Rails, 1954-63

		Factory sales		
Year	Tonnage made	Tonnage sold	Income from sales	
	net to	ns	\$'000	
1954	241, 922	232, 484	21, 421	
1955	228, 991	241, 254	22, 352	
1956	336,662	333, 979	33,027	
1957	393,926	383, 174	39,979	
1958	365, 429	377,604	41,587	
1959	286, 989	286, 419	31,637	
1960	224, 306	223, 033	<b>25, 38</b> 5	
1961	197,416	190, 760	21,556	
1962	233, 067	225, 683	25,404	
1963	342, 299	334, 422	35,707	

TABLE 29. Production and Factory Sales of Finished Rail Fastenings, 1954-63

	Tie plates			Fish plates and splice bars			
Year	Factory sales		ry sales			Factory sales	
	made	Quantity	Income from sales	Quantity made	Quantity	Income from sales	
	net	tons	\$'000	net	tons	\$'000	
1954	39, 386	38,027	4, 152	13, 175	12.786	1,545	
1955	66,856	67,683	7,272	15,582	16,812	1,986	
1956	88,590	86, 592	10, 103	18, 487	18,675	2,465	
1957	78,555	80,575	10, 148	17,022	16,793	2,502	
1958	56, 118	56, 189	7,338	14,078	14,088	2,066	
1959	70,376	70,351	8,970	14,853	14,818	2,212	
1960	36,028	36, 108	4,787	11,256	11, 133	1,684	
1961	44, 401	43,022	5,683	7,493	7,736	1,150	
962	53,765	54, 554	7,238	10,613	10,624	1,586	
1963	50,050	51,781	6,883	13,553	13, 476	2,009	

TABLE 30. Production and Factory Sales of Wire Rods of Iron or Steel, 1954 - 63

		Total	Factory sales		
	Year	tonnage made	Tonnage Inco		
		net to	ns	\$'000	
1954		275, 121	274, 870	26,848	
1955		357,775	362, 258	33, 296	
1956		403,834	403,602	42,565	
1957		291,300	292, 563	34, 408	
1958		268, 848	270, 210	30,592	
1959		382, 106	380, 132	46, 182	
1960		343,052	347,629	42,949	
1961		356,574	354, 119	46,362	
962		356, 262	354, 412	46,010	
1983		389,745	392, 533	52, 421	

<sup>1</sup> Beginning with 1954, includes shipments transferred to own mills of producing firms.

TABLE 31. Production and Factory Sales of Blooms, Billets and Slabs, 1954-63

		Except for forging <sup>1</sup>			For forging <sup>2</sup>		
	Year	Total Fact		Factory sales		Factory sales	
	tonnage made	Tonnage sold	Income from sales	tonnage made	Tonnage sold	Income from sales	
		net	tons	\$'000	net	tons	\$'000
1954		2, 201, 222	91,378	6, 821	72,503	59,539	5:927
1955	***************************************	2,864,919	227,833	16, 552	77,806	70,813	6,561
1956	141111141114111411111111111111111111111	3,490,564	133,991	9, 290	113,328	102,978	11, 282
1957	1114414141414141414141414141414141414141		141,062	11, 153	156,065	146, 407	17, 108
1958			101,343	8,245	171,217	166,079	20, 274
1959		l i	131,574	11,303	197,415	194,419	21,518
1960	**************************************	3	479, 229	39, 445	149,353	140,885	16,837
1961			326,895	25,690	180,709	156,637	18,461
1962			332,363	26, 197	192,706	181,545	21,832
1963			311,849	26,599	203,048	185, 899	22, 231

<sup>&</sup>lt;sup>1</sup> Shipment to other Canadian Rolling milis are included, <sup>2</sup> Includes blanks or pierced billets for seamless tubes, <sup>3</sup> Not collected since 1957.

TABLE 32. Production and Factory Sales of Hot-rolled Bars of All Kinds, 1954-63

	Total	Factory sales		
Year	tonnage made	Tonnage sold	Income from sales	
	net tor	18	\$'000	
1954	528, 521	445, 519	56, 525	
1955	742, 494	621,819	79, 841	
1956	947, 979	795,675	112, 281	
1957	865,533	718,864	107,391	
1958	705,073	585,016	86, 215	
1959	949, 865	795, 274	116, 993	
1960	807, 775	723,753	105,903	
1961	899,795	783, 314	107, 439	
1962	1,007,024	838, 140	115, 815	
1963	1,089,997	936, 734	132, 304	

TABLE 33. Production and Factory Sales of Structural Steel Shapes, of All Kinds, 1954-63

	Total	Factory sales		
Year	tonnage made	Tonnage sold	Income from sales	
	net tons			
954	193, 673	190, 521	20,056	
955	241, 698	249, 762	26, 694	
1956	316,000	315, 564	36, 361	
957	347, 693	341,975	42,823	
958	217, 137	225, 295	29,140	
959	268, 573	265, 194	34, 528	
960	241,392	234, 530	30,075	
961	329,572	318,664	40,412	
962	462, 442	450,309	56,659	
1963	509, 646	496, 334	62,370	

<sup>1</sup> In 1956 this category was revised to include sheet piling. Data in above table for previous years have been revised to accommodate this change in classification.

TABLE 34, Production and Factory Sales of Steel Plate, 1954-63

	Total	Factory sales		
Year	tonnage made	Tonnage sold	Income from sales	
	net to	ns	\$'000	
954	201, 939	201, 524	20,568	
955	253, 640	251, 870	26, 162	
956	326, 208	319,666	36, 936	
957	349, 626	344, 616	45,017	
958	230, 309	226,750	30, 618	
959	416,099	408, 835	53, 394	
960	387,947	387,993	52,275	
961	410, 267	403, 080	57,542	
962	489, 968	491,533	61,815	
963	560, 148	545.370	68,363	

<sup>1</sup> Excludes plate for pipes and tubes.

TABLE 35. Factory Shipments of Ferro-alloys - All Industries, 1954-63

Year	Net tons	Year	Net tons
1954	116,000	1959	136, 000
955	190,000	1960	138,000
956	240,000	1961	116, 000
57	204, 000	1962	142,000
958	113,000	1963	151,000

<sup>1</sup> Includes shipments from other industries which manufacture these commodities, as a secondary activity.

TABLE 36. Production and Factory Shipments of Coke Oven Products: Iron and Steel Mills, 1963

Product		Quantity made (including	Factory shipments	
		amounts for own use)	Quantity shipped	Value
				\$'000
Coke (including breeze)	ton	3, 852, 922	347, 162	4, 385
Coke oven gas	cu. ft.	55,014,690	3,957,804	1, 252
Tar Ir	np. gal.		37, 508, 012	3,761
Ammonium sulphate	ton		20, 120	691
20.001/01/01/01/01/01	np. gal.		6, 192, 764	1,707
Coluol	8.9		1,892,619	511
KyloI	1.6		1, 133, 201	407
All other products			***************************************	416
Total				13, 130

Note: Comprehensive details on operations of coke plants, regardless of industrial classification, are published in a monthly report "Coal and Coke Statistics", Catalogue No. 45-002, and in an annual report "The Coal Mining Industry", Catalogue No. 26-206.

TABLE 37. Coke Ovens: Iron and Steel Mills, December 31, 1963

Name of company and location of plant	Coke-making equipment, including reserve equipment (Rated annual capacity, in tons of coal carbonized, given in brackets)
The Algoma Steel Corporation Limited, Sauit Ste. Marie, Ontario	In use - 110 Wilputte ovens (849,520 tons), and 143 Koppers ovens (1,308,322 tons).
Dominion Foundries and Steel Limited, Hamilton, Ontario	In use - 105 Koppers ovens (850,000 tons).
Dominion Steel and Coal Corporation Limited, Sydney, Nova Scotia	In use 114 Koppers Becker Underjet ovens (887,240 tons).
The Steel Company of Canada Limited, Hamilton, Ontario	In use - 191 Wilputte ovens (1,700,000 tons).

TABLE 38. Producers of Ferro-alloys, 1963

Name of company	Plant location	Kind of ferro-alioy made
Canadian Carborundum Company, Limited	Niagara Falis, Ontario	Ferrosilicon (by-product)
Chromium Mining & Smelting Corp., Limited	Melocheville, Quebec	Ferrosilicon, silico manganese, ferromanganese, chrom-x, chrome sil-x, ferrochrome
Union Carbide Canada Ltd. (Metal & Carbon Div.)	(a) Beauharnois, Quebec	Ferrosilicon
	(b) Welland, Ontario	Ferrochrome, ferromanganese, silico manganese, ferrochrome-silicon
Electric Reduction Company of Canada, Limited	Buckingham, Quebec	Ferrophosphorus
Exolon Company, The	Thorold, Ontario	Ferrosilicon (by-product)
Lionite Abrasives Limited	Niagara Falls, Ontario	Ferrosliicon (by-product)
Norton Company	Chippawa, Ontario	Ferrosilicon (by-product)
Shawinigan Chemicals Limited	Shawinigan Falls, Quebec	Ferrosilicon (by-product)
Simonds Canada Abrasive Co., Limited	Arvida, Quebec	Ferrosilicon (by-product)
Strategic-Udy Metaliurgy Limited	Niagara Falls, Ontario	Ferrochtome

# List of Establishments classified to This Industry, 1963

 $(\textbf{Does not include establishments classified to other industries, which as a secondary activity, manufacture products typical of this industry)\\$ 

Name	Location
Nova Scotia:	
Dominion Steel and Coal Corpn. Ltd.	Sydney
Enamel Heating Products Ltd.	
uebec:	
Canadian Steel Foundries Ltd. Canadian Unitcast Steel Ltd.	Montreal Sherbrooke
Chromium Mining and Smelting Corp. Ltd.	Melocheville
Crucible Steel of Canada Ltd.	Sorel
Dominion Brake Shoe Co., Ltd.  Dominion Steel and Coal Corp. Ltd.	Joliette Montreal
Lynn MacLeod Metallurgy Ltd.	Thetford Mines
Maganese Steel Castings Ltd.	Sherbrooke
Sorel Steel Foundries Ltd. Union Carbide Canada Ltd.	Sorel
Chion Caronge Canada Ltd.	Beauharnois
Intario:	
Atlas Steels Company, Div. of Rio Aigom Mines Limited	Welland
Algoma Steel Corpn. Ltd., Steel Works Division	Sault Ste Marie
Algoma Steel Corpn. Ltd., Canadian Furnace Division	
Canadian Drawn Steel Co., Ltd.	Hamilton
Dominion Foundries and Steel Ltd.	Hamilton
Fahrailoy Canada Ltd.	Orillia
Indiana Steel Products Co. of Canada Ltd. Neelon Steel Ltd.	
Slater Steel Industries Ltd., Burlington Steel Co. Div.	Hamilton
Stanley Steel Co., Ltd.	
Steel Co. of Canada Ltd. Strategic-Udy Metallurgy Limited	
Union Carbide Canada Ltd.	Welland
Union Drawn Steel Co., Ltd.	
Vanadium Alloys Steel Canada Ltd. Welmet Industries Ltd.	London   Welland
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anitoba:	
Dominion Brake Shoe Co., Ltd., Manitoba Steel Foundry Div.	Selkirk
Manitoba Rolling (Mills) Co., Ltd., Div. of Dom. Bridge Co., Ltd	Selkirk
Uberta:	
Foothills Steel Foundry and Iron Works Ltd.	Calgary
Premier Steel Mills Ltd.	Edmonton
ritish Columbia:	
A - 1 Steel and Iron Foundry Ltd.	Vancouver
Consolidated Mining and Smelting Co. of Canada Ltd.	Kimberley
Esco Limited, Foundry Div.	Port Coquitlam
Reliance Foundry Co., Ltd. Vancouver Rolling Mill Ltd.	Vancouver Vancouver
Vancouver Rolling Mill Ltd., Steel Div.	Twigg Island, Richmond

# CONCEPTS AND DEFINITIONS

Census of Manufactures

#### General

The Census of Manufactures is an annual mail survey covering Canada's Manufacturing Industries. It is based on the Standard Classification of Industries and full details concerning the system may be found in the Standard Industrial Classification manual, Catalogue No. 12-501 which is available from the Queen's Printer or the Dominion Bureau of Statistics. In summary, the Classification as it relates to the manufacturing industries provides for a breakdown into 140 industries arranged in 20 major industry groups. Of the 140 (3 digit) industries, 18 are further broken down into 58 (4 digit) sub classes. At the Canada level, principal statistics are collected and compiled for 178 separate industries. They cannot all be published separately by province, however, because of the confidential nature of the data in certain provinces.

The reporting unit for the Census is designated as the establishment (see definition of "Establishment" in following section) and a return is requested from every establishment classified to a manufacturing industry. Although respondents are required to submit reports covering the calendar year, financial year reports other than the calendar year are accepted in instances where respondents find it impossible to supply calendar year data from accounting records. When an establishment is operated for only part of a year a report is required covering the period of operation.

There are four different questionnaires used in the Census of Manufactures; (a) short form (b) long form (c) head office questionnaire and (d) commodity questionnaire. The short and long forms are used to obtain principal statistics and commodities shipped from establishments classified to manufacturing industries and differ only in the amount of detail requested. The short form is a single-sheet questionnaire sent to small manufacturers generally reporting shipments of less than \$100,000; this cut-off, however, varies somewhat between industries. The head office questionnaire is generally used for company head offices and/or auxiliary units separately located from the manufacturing establishment(s), (see following notes on Head offices and auxiliary units). The Commodity questionnaire is used to survey certain establishments which are coded (on the basis of their principal activity) to industries other than manufacturing in the Standard Industrial Classification system, but which undertake some manufacturing as a subsidiary activity. This single-sheet questionnaire is designed to collect information on the quantity and value of goods of own manufacture shipped by such establishments in order to achieve full coverage of domestically manufactured commodities (see the following note under Shipments).

The results of the Census are presented in some 140 publications. In addition to these annual industry publications there are annual summary reports for Canada and the provinces and special reports giving principal statistics by detailed geographic areas, by type of ownership and size of establishment. A special annual report covering the shipments of all manufactured commodities arranged in alphabetical order is also published.

Since 1960 the following major changes have been implemented in the Census of Manufactures: (a) a revised Standard Industrial Classification (b) a new establishment definition and (c) an extension of the establishment definition to cover the non-manufacturing activities of manufacturing establishments. The statistics presented in the various 1963 reports reflect the complete implementation of these changes and enable comparisons to be made with the years 1961 and 1962. For a complete' description of the procedures followed in establishing the revised series, reference should be made to the Explanatory Notes included in the 1960, 1961 and 1962 industry publications. The statistical framework within which the Census of Manufactures is now carried out is based on the following concepts and definitions which have been developed as part of a general programme to achieve a fully integrated system of economic statistics.

#### Establishment

A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing activities. The majority of such establishments are firms but many firms have more than one establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements embodied in the following definition of the "establishment":

"The smallest unit which is a separate operating entity capable of reporting the following principal statistics:

Materials and supplies used
Goods purchased for resale as such
Fuel and power consumed
Number of employees and salaries and wages
Man-hours worked and paid
Inventories
Shipments or sales."

Each establishment is required to report on all the activities carried out within it's accounting boundaries (except income from investments such as rent, interest and dividends) and data on the different activities (manufacturing, trading in goods not of own manufacture, construction by own labour force, revenue from services, etc.) are requested to be reported separately. It should be noted that the statistics for separate activities are not completely consistent since some respondents cannot distinguish, in their records, materials, shipments and inventories relating solely to their own manufacturing activities. For example, inventory of goods purchased for re-sale may not be distinguishable from inventory of own manufactured goods. Complete consistency, therefore, can be obtained only at the "all operations" (total activity) level and for studies or statistical measures requiring accurate coordinated data, the "total" statistics should be used.

The number of establishments represents the number of operating units that are principally engaged in the activities of the manufacturing industries to which they have been classified. These units do not necessarily represent the total number engaged in the production of a commodity mainly produced in a certain industry. Some commodities are produced as secondary products in other manufacturing and non-manufacturing industries. It should be noted that head offices and auxiliary units which are surveyed separately are not included in the establishment count, (see following notes on head offices and auxiliary units).

#### **Head Offices and Auxiliary Units**

All head offices and auxiliary units of companies classified to the manufacturing industries such as sales offices, administrative offices, warehouses, laboratories, etc. are now surveyed as part of the Census of Manufactures.

These head offices and auxiliary units are either included in an establishment report or are surveyed by means of the head office questionnaire. The former is the most common case where a single establishment firm has its executive personnel, sales office, etc. located at the site of the manufacturing plant (establishment). The special head office questionnaire is generally used where a firm, regardless of the number of establishments, has separately located offices or auxiliary units. Such offices or units do not constitute establishments within the Census of Manufactures as they do not normally generate operational revenues, but give rise only to costs of operations (mainly salaries and wages) which are automatically included in the value of shipments or sales. Although not considered as establishments, and hence, not included in the "establishment" count for an industry, the operational costs are reflected in either the "Industry" statistics (3 or 4 digit level) or the "Major group" statistics (2 digit level) according to the following rules:

- (a) In the case of single establishment firms, statistics for separately located offices and units are classified to the same industry (3 or 4 digit) as the establishment;
- (b) In the case of multi-establishment tirms, the statistics for such offices and units are coded to the same industry as the establishments of the

firm, when all establishments are in the same industry (3 or 4 digit). When establishments of such firms are coded (1) to different industries within a major group, (2) to industries in different major groups or (3) to industries in different divisions of the Standard Industrial Classification, then the statistics are included in the major group totals (2 digit level) in which the major part of the company's operations are classified. Although this may result in some distortion of major group statistics in the case of (2) and (3) the statistics at the industry (3 or 4 digit) level in all cases will be left free of these company-wide data.

#### **Employees**

#### (a) Production and related workers – Manufacturing activity

In addition to those engaged in production and assembling activities, they include those employed in storing, inspecting, handling, packing, warehousing, etc. They also include employees engaged in maintenance, repair, janitorial and watchman services and line supervisors (working foremen) engaged in similar work to that of the employees they supervise. Production and related workers engaged in manufacturing activity are reported as those receiving pay during the last pay period of each month, an average for the year being obtained by summing the monthly figures and dividing by 12. This procedure is followed even though the establishment did not operate in all months in order to arrive at equivalent annual fulltime employment. The numbers are somewhat affected by turnover, in that employment is overstated when an employee changes employment during a pay period. The man-hours of production and related workers in manufacturing activity represent total man-hours paid (total hours at work during the calendar year plus hours not worked but nevertheless paid for, such as paid vacations, sick leave, statutory holidays, etc.). In reporting overtime hours, respondents are requested to report only hours actually at work. It should be noted that the division of hours paid into production and related workers payrolls results in average hourly earnings and does not represent hourly wage rates which are collected and published by the Department of Labour and which are based on selected occupations.

# (b) Production and related workers - Non-manufacturing activities

Such employees include those on manufacturing establishments' payrolls engaged in activities such as construction undertaken for the use of these establishments, some outside piece-workers employed in certain industries, logging employees who are reported as part of a sawmilling establishment and any other production workers who are not engaged in manufacturing-type operations.

#### (c) Administrative and office employees

This category includes all executive and supervisory officials such as presidents, vice-presidents, comptrollers, secretaries, treasurers,

etc., together with managers, professional, technical and research employees, superintendents and factory supervisors above the line supervisor or working foreman level, and clerical staffs. Also included are employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical, etc. It should be noted that prior to 1961 this category also included working owners and partners. Also included in this category are employees located at head offices or auxiliary units separately located from the establishment; these are generally included in the figures for the province in which they are located according to the rules outlined under "Head offices and auxiliary units" above.

#### (d) Sales and distribution workers

This category includes office personnel whose salaries are charged to selling expense, travelling salesmen, driver salesmen, truckdrivers and their helpers, etc. It may also include some sales employees who are reported as part of a manufacturing establishment but are not working at the establishment's location. These are generally broken down by province in cases where more than 15 employees are involved in any one province. The figures exclude persons working on a commission basis who are not considered regular employees of the establishment.

#### (e) Total Employees

This total comprises the foregoing categories including employees located at separately located head offices and auxiliary units. The numbers of employees included under categories (b), (c) and (d) are reported in the form of annual averages and represent as closely as possible full time employment; adjustments are made when reported figures indicate the existence of part time or seasonal employment. In all the above categories, figures on employment refer to the calendar year whether or not other establishment statistics can only be reported on a fiscal year other than the calendar year.

# **Working Owners or Partners**

These are not now included in the statistics of employees and salaries and wages. There is some duplication in numbers when a person owns more than one establishment and is reported as a working owner on each Census return. Withdrawals of working owners defined as amounts withdrawn by owners or partners for normal living expenses excluding withdrawals for payment of income tax.

### Salaries and Wages

Salaries and wages refer to gross earnings of employees before deductions for income tax and employees contributions to social services such as sickness, accident and unemployment insurance, pensions, etc. They include all salaries, wages, bonuses, profits shared with employees, the value of room and board where provided, commissions (paid to regular employees only) as well as any

other allowance forming part of the worker's earnings. Payments for over-time are included. Figures on salaries and wages refer to the calendar year.

#### Fuel and Electricity

Figures for fuel refer to amounts actually used (including fuel used in cars, trucks, locomotives, etc.), not to purchases unless the quantities are substantially the same. Any fuel and electricity produced by establishments for internal consumption are not included in the total cost. Values represent laid down cost at the establishment including freight, duty, etc. Although fuel and electricity used is considered part of manufacturing activity it should be noted that it also includes relatively small amounts used in non-manufacturing activities since these cannot be reported separately.

#### Materials and Supplies

#### (a) Manufacturing activities

Figures represent quantities and laid down cost values, at the establishment, of materials, supplies and purchased components owned and used during the year in manufacturing activities and related processes. These statistics represent only commodity items or physical goods (cost of services or overhead charges such as advertising, insurance, depreciation, etc. are not included) whether purchased from others or received as transfers (in the form of materials, components or semi-processed goods) from other establishments of the reporting company. Included are maintenance and repair supplies not chargeable to fixed assets accounts and any amounts charged by other establishments for work done on materials owned by the reporting establishment. Cost of repairs or maintenance done by outside contractors and cost of returnable containers are not included.

#### (b) Non-manufacturing activities

#### 1. Purchases for re-sale as such

Figures represent cost of materials or products purchased from others by the reporting establishment (or received as transfers from other establishments of the reporting company) for re-sale as such in the same condition as purchased. Included are any finished products received on consignment from other countries.

#### 2. Other materials and supplies used

Figures represent the cost of materials and supplies, if any, used in new construction and in the production of machinery and equipment (for the use of the reporting establishment) by the establishment's own employees. Included are materials used for any capital repairs and alterations carried out by the establishment's employees. Amounts paid to outside contractors for construction and repair work are not included nor is the cost of purchased machinery and equipment. Also included is the cost of office supplies not chargeable to

fixed assets accounts and the cost of such other items of materials and supplies used as food, beverages and supplies for establishment-operated cafeterias and lunch counters, first aid and medical supplies, laboratory supplies, etc.

#### **Shipments**

#### (a) General

The figures represent revenue from all production, sales, services and related activities of reporting establishments with shipments valued in Canadian dollars at the point at which the establishment relinquishes control. The unsold portion at year end of consignment shipments in Canada is treated as inventory and not as shipments but all shipments to foreign countries for which the form B13 "Customs Canada Export Entry" has been completed, are treated as shipments.

In those industries where work on principal products extends over a relatively long period, (Fabricated Structural Metal Industry, Aircraft and Parts Manufacturers, Railroad Rolling Stock Industry and Shipbuilding and Repair Industry) the value of production rather than the value of shipments is recorded. There are certain establishments in other industries which also operate on a basis of progress payments. For these establishments, shipments are also adjusted to work put in place on the basis of the net change in progress payments over the year.

#### (b) Shipments of goods of own manufacture

These figures represent shipments of goods made from own materials either in the reporting establishments or by other manufacturers on the basis of a charge to the reporting establishments for work done. Included are revenue from repair and custom work, amounts received in payment for work done on materials owned by other establishments and the cost (book value) of any goods shipped on a rental basis.

All products and by-products of own manufacture shipped from the establishment are covered, including transfer shipments to sales outlets, distributing warehouses or to other manufacturing plants of the reporting firm, when such units are treated as separate establishments. The value of shipments are net of returned goods, discounts, returns, allowances, sales tax and excise taxes and duties, returnable containers and charges for outward transportation by common or contract carriers. Transportation or delivery expense incurred by the reporting establishment's own carriers are included.

Shipments of goods of own manufacture of establishments which are coded to some other division of the Standard Industrial Classification (on the basis of principal activity) but which are engaged in manufacturing as a subsidiary activity are collected by means of the Commodity questionnaire referred to earlier. Such shipments together

with shipments of goods of own manufacture of establishments forming the universe of manufacturing industries are compiled and recorded in the various industry publications.

#### (c) Shipments of goods not of own manufacture

These figures represent the net selling value at establishment (net of discounts, returns, allowances, sales taxes and excise duties and taxes and transportation charges by common or contract carriers) of all products or materials (including products transferred from other establishments of the reporting firm) sold as such in the same condition as purchased or received as transfers. For those industries which ship such goods on a rental basis, the value of shipments represents the book value of these goods. All sales of consignment goods from other countries are included.

#### (d) Other revenue

Figures represent the book value of fixed assets, if any, (new construction and machinery and equipment including major repairs, alterations, additions, modifications, installation and assembly work) produced during the year for the use of reporting establishments by the establishment's own employees and for which depreciation accounts are maintained. Included also are any revenues from the sale of electricity and from any operations performed by the establishment's own employees, such as revenue from goods produced or purchased for rental (the book value of such goods are included as part of shipments of goods of own manufacture or shipments of goods not of own manufacture), servicing revenues, commissions on sales (when not included in value of sales), revenue for companyoperated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishment's own products, sale of used materials (excluding sale of used fixed assets) research and development work, etc. As mentioned previously the figures do not include non-operating revenue such as rent, dividends, interest, etc.

#### Inventories

#### (a) Manufacturing activities

Values represent the book values of manufacturing inventory owned in Canada. Inventories held for which progress payments have been received are not included. Where progress payment accounts are maintained, the change in these accounts is treated as a net adjustment to shipments. Figures consist of inventory owned at the plant and at warehouses or selling outlets which are treated as extensions of establishments for the purpose of reporting shipments. Inventory owned in transit in Canada or on consignment in Canada is included. Goods shipped abroad and held in inventory are included in shipments. Opening inventories may differ from the closing inventories of the previous year because of changes in classification, the

receipt of revised data, the inclusion of new establishments and the removal of establishments which did not operate during the survey year.

#### (b) Non-manufacturing activities

Figures represent the book value of inventory of goods purchased for re-sale as such without further processing, owned by the reporting establishments and held at plants and at any warehouses or selling outlets which are treated as extensions of establishments. Other characteristics are the same as in (a) above.

#### Value Added

#### (a) By manufacturing activities

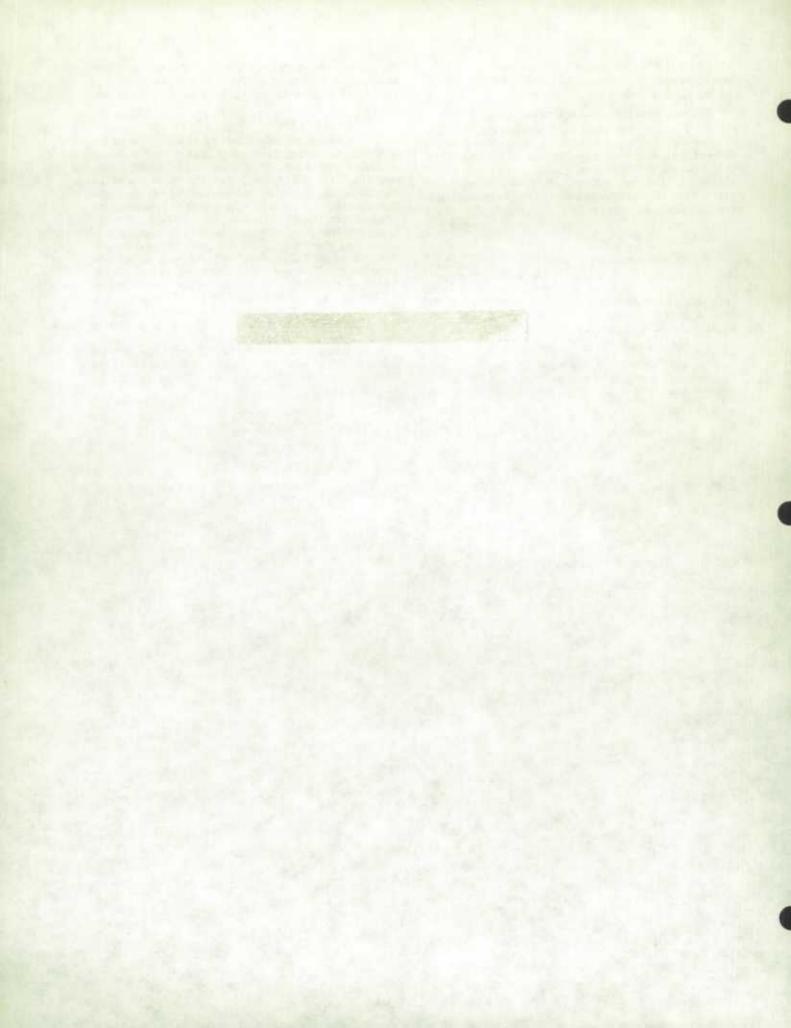
Figures are compiled by deducting the cost of materials and fuel and electricity consumed from the value of production (value of shipments adjusted for changes in the value of inventories of finished goods and goods in process).

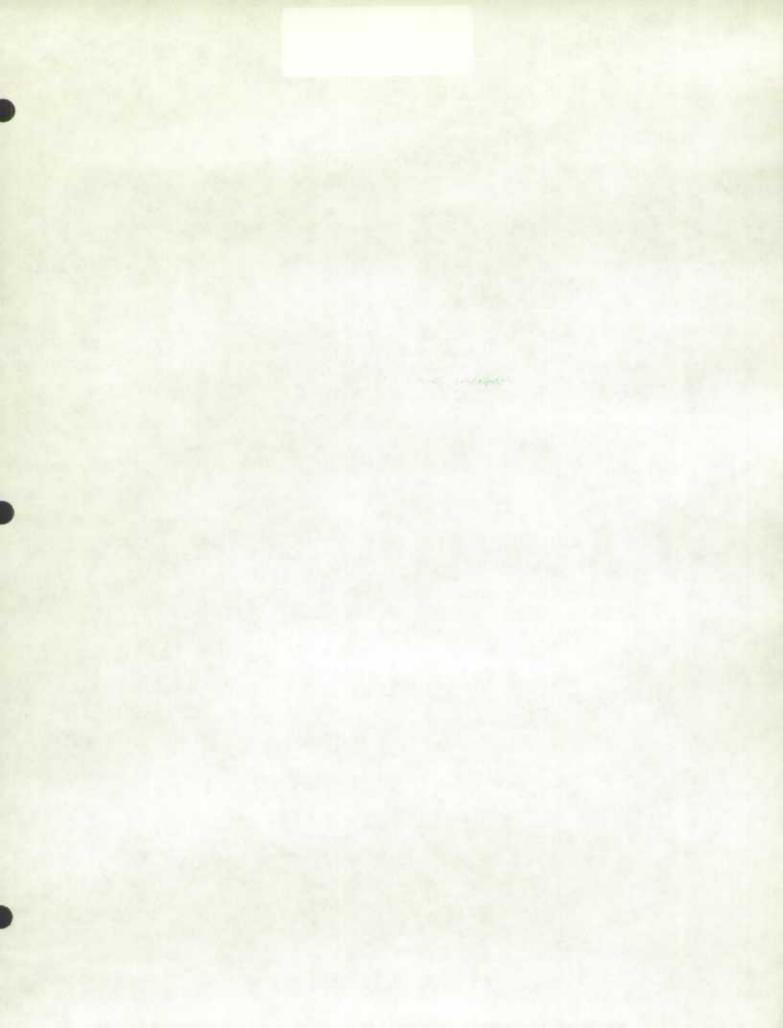
#### (b) By non-manufacturing activities

The figures are compiled by deducting the the cost of goods purchased for re-sale (adjusted for changes in the value of inventories of goods purchased for re-sale) and the cost of other materials and supplies used from the value of shipments of goods not of own manufacture, plus other revenue.

#### (c) By Total activities

The figures consist of value added by manufacturing activities plus value added by non-manufacturing activities. This total value added figure may, in some cases, be less than value added by manufacturing activities as a result of expenditures associated with non-manufacturing exceeding revenues from such activities or because of a decrease in inventory of goods not of own manufacture exceeding the mark-up on the sale of such goods. "Value added" is sometimes referred to as net production. However, to arrive at the National Accounts concept of net production, or Gross Domestic Product at "Factor cost" it would be necessary to subtract also the cost of advertising, insurance and other business expenses which are not collected as part of the annual Census of Manufactures. "Value added" figures for the primary industries, manufacturing and construction are published in DBS publication Catalogue No. 61-202, "Survey of Production".





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