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IRON FOUNDRIES

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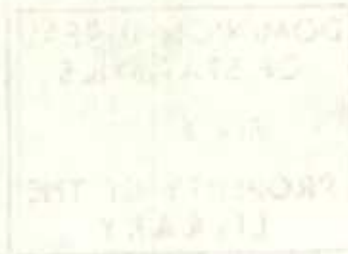
ANNUAL CENSUS
OF MANUFACTURES

Published by Authority of
The Minister of Trade and Commerce

DOMINION BUREAU OF STATISTICS
Industry Division

August 1965
6521-802

Price: 50 cents



SYMBOLS

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- .. figures not available.
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IRON FOUNDRIES

1962

Data presented in this report under the heading of Iron Foundries 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 industry statistics compilations—see items "Standard Industrial Classification" and "Establishment" in the Explanatory Notes section of this report.

For statistical purposes the industry titled Iron Foundries in the revised Standard Industrial Classi-

fication covers the operations of establishments primarily engaged in manufacturing iron castings, including cast iron pipe and fittings.

The combination of improvements in internal procedures with the introduction of the final stage of the establishment concept has produced changes which, for some industries, have required adjustments to industry statistical data. For this industry changes affecting manufacturing activity were minor.

TABLE 1. Principal Statistics — Manufacturing Activity,¹ 1957-61
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Year	Estab- lish- ments	Employees						Cost of fuel and elec- tricity ⁴	Cost of materials and supplies used ⁵	Value of shipments of goods of own manu- facture ⁶	Value added ⁷
		Production and related workers ⁴		Administrative and office employees ⁵		Total ⁶					
		Number	Wages	Number	Salaries	Number	Salaries and wages				
	No.		\$'000		\$'000			\$'000			
1957	160	8,825	30,814	1,532	7,542	10,457	38,356	2,258	39,015	102,920	..
1958	147	7,908	28,319	1,442	7,032	9,350	35,351	2,244	37,835	97,398	57,487
1959	141	8,416	32,572	1,399	7,201	9,615	39,774	2,536	47,091	109,317	60,832
1960	140	7,379	28,870	1,325	7,183	8,704	36,033	2,245	40,470	97,703	55,286
1961	140	6,869	27,461	1,303	6,992	8,172	34,453	2,277	36,865	94,625	54,327

See footnotes following Table 3 A.

TABLE 1A. Principal Statistics — Manufacturing Activity and Total Activity,¹ 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Year and province	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁶	Value of shipments of goods of own manu- facture ⁷	Value added ⁸	Working owners and partners ⁹		Total employees ¹⁰		Total value added ¹¹
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Newfoundland	3	90	221	335	33	346	765	370	10	10	122	444	482
Prince Edward Island	1												
Nova Scotia	4	69	130	221	13	209	541	322	10	10	91	314	366
New Brunswick	2												
Quebec	43	1,362	3,097	5,149	473	9,791	21,055	10,544	14	40	1,631	1,559	10,781
Ontario	65	4,615	9,385	18,713	1,580	23,661	60,796	34,456	9	42	5,410	23,093	35,225
Manitoba	4	244	507	1,012	51	899	3,455	2,474	—	—	321	1,413	2,461
Saskatchewan	3	20	43	65	6	79	272	175	4	14	27	95	196
Alberta	4	171	349	707	57	1,508	4,269	2,760	—	—	208	976	2,849
British Columbia	11	291	576	1,258	63	910	3,471	2,554	4	15	368	1,719	2,521
Totals	140	6,862	14,308	27,461	2,277	37,403	94,625	53,655	36	118	8,178	34,612	54,882
1962													
Newfoundland	2	88	219	347	35	245	738	458	10	10	117	458	891
Prince Edward Island	1												
Nova Scotia	3	67	142	225	12	212	561	357	10	10	91	328	443
New Brunswick	2												
Quebec	40	1,465	3,210	5,465	488	10,337	27,334	16,332	9	30	1,760	6,959	16,591
Ontario	63	4,919	10,326	20,958	1,828	27,969	67,100	38,454	11	50	5,680	25,443	39,121
Manitoba	5	244	498	1,064	65	926	3,543	2,702	—	—	324	1,488	2,873
Saskatchewan	2	203	430	869	62	1,962	4,943	2,944	—	—	243	1,154	3,102
Alberta	4												
British Columbia	11	260	500	1,187	56	694	3,234	2,484	4	20	331	1,578	2,540
Totals	133	7,246	15,326	30,116	2,545	42,344	107,453	63,732	27	111	8,546	37,409	65,359

See Table 2 and footnotes following Table 3 A.

TABLE 1 B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man- hours paid	Wages					Number	With- drawal	Number	Salaries and wages	
	No.		'000			'000				'000		'000	
1961													
Under \$10,000	6	2	4	7	2	17	43	23	4	8	8	21	44
\$ 10,000 to \$ 24,999	9	22	33	52	4	38	151	107	9	22	25	61	108
25,000 " 49,999	15	58	90	143	32	177	496	289	12	41	74	188	316
50,000 " 99,999	17	138	253	402	39	333	1,142	768	6	18	177	576	776
100,000 " 199,999	25	443	834	1,396	118	1,142	3,667	2,406	5	30	516	1,728	2,548
200,000 " 499,999	30	1,076	2,180	3,773	297	3,434	10,021	6,404	—	—	1,281	4,888	6,722
500,000 " 999,999	18	1,113	2,468	4,298	257	4,938	13,563	8,378	—	—	1,326	5,549	8,473
1,000,000 " 4,999,999	17	3,243	6,587	13,494	1,085	14,030	40,747	24,699	—	—	3,774	16,471	25,223
5,000,000 and over	3	767	1,859	3,896	442	13,293	24,796	10,580	—	—	997	5,130	10,672
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	140	6,862	14,308	27,461	2,277	37,403	94,625	53,655	36	118	8,178	34,612	54,882
1962													
Under \$10,000	4	2	2	3	1	10	34	23	4	10	2	3	28
\$ 10,000 to \$ 24,999	7	16	25	43	3	40	130	87	7	23	18	50	87
25,000 " 49,999	12	60	89	140	21	162	460	277	8	33	68	168	292
50,000 " 99,999	20	185	333	545	44	424	1,387	922	3	10	235	741	1,044
100,000 " 199,999	22	435	830	1,333	110	1,157	3,549	2,264	5	35	502	1,632	2,378
200,000 " 499,999	27	942	2,038	3,493	251	2,979	9,245	6,014	—	—	1,104	4,501	6,142
500,000 " 999,999	17	1,025	2,275	4,131	284	4,206	12,425	8,095	—	—	1,210	5,237	8,279
1,000,000 " 4,999,999	20	3,102	6,455	13,614	1,190	18,203	42,538	24,337	—	—	3,634	16,573	25,205
5,000,000 and over	4	1,479	3,278	6,814	641	15,162	37,684	21,715	—	—	1,773	8,504	21,910
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	133	7,246	15,326	30,116	2,545	42,344	107,453	63,732	27	111	8,546	37,409	65,359

See footnotes following Table 3 A.

TABLE 1 C. Principal Statistics classified by Size Groups based on Manufacturing Value Added, 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			'000				'000		'000	
1961													
Under \$10,000	9	7	13	19	5	52	108	49	7	10	16	40	70
\$ 10,000 to \$ 24,999	17	48	74	118	28	141	420	255	18	60	57	140	275
25,000 " 49,999	16	113	187	289	28	306	912	581	6	18	137	386	589
50,000 " 99,999	18	249	464	727	77	701	2,032	1,254	1	4	304	963	1,285
100,000 " 199,999	26	705	1,416	2,335	199	1,983	5,839	3,751	4	25	836	2,991	4,193
200,000 " 499,999	29	1,379	2,886	5,091	357	5,856	15,570	9,280	—	—	1,622	6,496	9,310
500,000 " 999,999	9	761	1,605	3,070	141	2,810	9,059	6,118	—	—	904	3,881	6,227
1,000,000 " 4,999,999	16	3,600	7,664	15,813	1,441	25,553	60,684	32,367	—	—	4,302	19,715	32,933
5,000,000 and over													
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	140	6,862	14,308	27,461	2,277	37,403	94,625	53,655	36	118	8,178	34,612	54,882
1962													
Under \$10,000	7	9	11	18	4	50	106	52	8	22	11	22	52
\$ 10,000 to \$ 24,999	11	39	61	99	12	112	298	174	8	32	45	118	194
25,000 " 49,999	18	140	237	378	37	317	1,016	665	6	21	167	460	677
50,000 " 99,999	17	271	513	627	81	730	2,068	1,249	2	13	324	1,073	1,446
100,000 " 199,999	23	571	1,198	1,885	154	1,568	4,983	3,285	3	23	672	2,398	3,410
200,000 " 499,999	30	1,446	3,108	5,567	410	6,351	16,597	10,039	—	—	1,669	6,949	10,253
500,000 " 999,999	12	908	1,937	3,946	298	5,010	13,172	8,527	—	—	1,102	5,040	9,011
1,000,000 " 4,999,999	15	3,862	8,261	17,396	1,569	28,205	69,213	39,744	—	—	4,556	21,348	40,315
5,000,000 and over													
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	133	7,246	15,326	30,116	2,545	42,344	107,453	63,732	27	111	8,546	37,409	65,359

See footnotes following Table 3 A.

TABLE 1 D. Principal Statistics classified by Size Groups based on Total Value Added, 1961 and 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
1961	No.		'000			\$'000				\$'000		\$'000	
Under \$10,000	8	6	10	15	4	49	104	49	7	10	12	25	49
\$ 10,000 to \$ 24,999	17	49	76	122	27	137	394	235	16	56	61	155	265
25,000 " 49,999	17	113	187	289	30	313	942	601	8	22	137	386	621
50,000 " 99,999	17	242	453	700	73	646	1,886	1,166	1	4	291	910	1,179
100,000 " 199,999	23	558	1,101	1,804	141	1,380	4,691	3,127	4	25	646	2,273	3,253
200,000 " 499,999	33	1,533	3,213	5,649	419	6,514	16,864	9,992	—	—	1,825	7,268	10,357
500,000 " 999,999	9	761	1,605	3,070	141	2,810	9,059	6,118	—	—	904	3,881	6,227
1,000,000 " 4,999,999	16	3,600	7,664	15,812	1,442	25,553	60,684	32,367	—	—	4,302	19,715	32,933
5,000,000 and over													
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	140	8,862	14,308	27,461	2,277	37,403	94,625	53,655	36	118	8,178	34,612	54,882
1962													
Under \$10,000	7	9	11	18	4	50	106	52	8	22	11	22	52
\$ 10,000 to \$ 24,999	10	31	49	81	11	98	268	159	7	29	37	101	160
25,000 " 49,999	18	133	223	360	37	321	994	640	7	24	157	433	852
50,000 " 99,999	14	224	420	653	51	534	1,574	961	—	—	266	842	1,008
100,000 " 199,999	24	536	1,094	1,741	146	1,526	4,720	3,045	5	35	625	2,200	3,249
200,000 " 499,999	31	1,405	3,001	5,375	388	6,164	16,070	9,742	—	—	1,621	6,675	9,854
500,000 " 999,999	14	1,046	2,267	4,491	339	5,443	14,507	9,393	—	—	1,273	5,788	10,069
1,000,000 " 4,999,999	15	3,862	8,261	17,396	1,569	28,205	69,213	39,741	—	—	4,556	21,348	40,315
5,000,000 and over													
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	133	7,246	15,326	30,116	2,545	42,344	107,453	63,732	27	111	8,546	37,409	65,359

See footnotes following Table 3 A.

TABLE 1 E. Principal Statistics classified by Size Groups based on Total Employed,¹¹ 1961 and 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size groups	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
1961	No.		'000			\$'000				\$'000		\$'000	
Under 5 employees	19	23	43	69	19	113	376	243	18	47	34	104	282
5 - 14 employees	28	180	316	517	59	591	1,624	980	13	41	229	711	1,006
15 - 49 "	51	1,298	2,592	4,404	343	4,289	13,002	8,320	5	30	1,534	5,683	8,398
50 - 99 "	23	1,308	2,776	5,170	341	6,320	17,433	11,080	—	—	1,534	6,452	11,440
100 - 199 "	7	802	1,740	3,456	347	9,113	18,476	8,768	—	—	1,011	4,637	8,928
200 - 499 "	12	3,251	6,842	13,846	1,168	16,977	43,714	24,265	—	—	3,836	17,024	24,828
500 employees and over													
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	140	6,862	14,308	27,461	2,277	37,403	94,625	53,655	36	118	8,178	34,612	54,882
1962													
Under 5 employees	13	16	24	44	10	83	286	195	14	49	17	48	195
5 - 14 employees	28	203	368	600	58	809	1,772	1,108	8	26	256	811	1,177
15 - 49 "	48	1,262	2,580	4,373	311	3,848	11,933	7,767	5	35	1,468	5,564	8,067
50 - 99 "	26	1,538	3,333	6,306	515	9,137	22,611	13,612	—	—	1,809	7,911	13,928
100 - 199 "	6	718	1,559	3,194	337	8,963	18,043	8,972	—	—	855	4,042	9,330
200 - 499 "	12	3,509	7,462	15,599	1,313	19,703	52,806	32,077	—	—	4,141	19,033	32,862
500 employees and over													
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	133	7,246	15,326	30,116	2,545	42,344	107,453	63,732	27	111	8,546	37,409	65,359

See footnotes following Table 3 A.

TABLE 1 F. Principal Statistics classified by Type of Organization, 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Type of organization	Establishments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and electricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manufacture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Individual ownerships.....	22	107	189	279	28	320	910	570	14	42	123	330	593
Partnerships.....	11	47	94	161	16	208	594	368	22	76	51	172	441
Incorporated companies.....	107	6,708	14,026	27,021	2,233	36,875	93,121	52,718	—	—	8,004	34,110	53,847
Cooperatives.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals.....	140	6,862	14,308	27,461	2,277	37,403	94,625	53,655	36	118	8,178	34,612	54,882
1962													
Individual ownerships.....	18	94	144	222	21	255	768	494	15	54	104	245	513
Partnerships.....	6	34	73	132	12	132	395	250	12	57	36	141	309
Incorporated companies.....	109	7,118	15,109	29,762	2,513	41,957	106,290	62,988	—	—	8,406	37,023	64,537
Cooperatives.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals.....	133	7,246	15,326	30,116	2,545	42,344	107,453	63,732	27	111	8,546	37,409	65,359

See footnotes following Table 3 A.

TABLE 2. Industry Outputs, Inputs and Value Added, 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Item	1961	1962
	\$'000	
Manufacturing activity:		
Value of shipments—Goods of own manufacture.....	94,625	107,453
Add: Closing inventory—Goods in process.....	2,090	1,796
Finished goods.....	7,031	8,329
Deduct: Opening inventory—Goods in process.....	2,899	2,101
Finished goods.....	7,512	6,857
Gross output—Manufacturing activity.....	93,335	108,620
Deduct: Cost of materials and supplies used in manufacturing activity.....	37,403	42,344
Cost of fuel and electricity used.....	2,277	2,545
Value added—Manufacturing activity.....	53,655	63,731
Non-manufacturing activities:		
Value of shipments—Goods not of own manufacture.....	..	8,378
Add: All other revenue.....	..	282
Closing inventory—Goods purchased for resale.....	1,537	1,646
Deduct: Purchases of goods for resale as such.....	..	6,930
Opening inventory—Goods not of own manufacture.....	1,678	1,486
Cost of all other materials and supplies used.....	..	261
Value added—Non-manufacturing activities.....	1,227	1,859
Total value added.....	54,882	65,359

See footnote following Table 3 A.

TABLE 3. Employment and Payroll, 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept¹

Year and province	Employees										Salaries and wages				
	Production and related workers				Adminis- trative and office ²		Sales, and distribution ³		Total employees ^{4,5}		Production and related workers		Admin- istra- tive and office	Sales, and distri- bution	Total salaries and wages
	Manufacturing ⁶		Other ⁷												
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Manufac- turing	Other			
	number										\$'000				
1961															
Newfoundland	90	—	..	..	..	..	..	..	115	7	335	..	..	..	444
Prince Edward Island															
Nova Scotia	69	—	..	..	..	..	..	..	82	9	221	..	..	..	314
New Brunswick															
Quebec	1,359	3	..	..	..	..	..	..	1,587	44	5,149	..	..	..	6,559
Ontario	4,492	123	..	..	..	..	..	..	5,116	294	18,713	..	..	..	23,093
Manitoba	244	—	..	..	..	..	..	..	305	16	1,012	..	..	..	1,413
Saskatchewan	20	—	..	..	..	..	..	..	26	1	65	..	..	..	95
Alberta	171	—	..	..	..	..	..	..	201	7	707	..	..	..	976
British Columbia	291	—	..	..	..	..	..	..	350	18	1,258	..	..	..	1,719
Totals	6,736	126	..	..	..	..	..	..	7,782	396	27,461	..	..	..	34,612
1962															
Newfoundland	88	—	—	—	21	6	1	1	110	7	347	—	102	10	460
Prince Edward Island															
Nova Scotia	67	—	—	—	10	9	5	—	82	9	225	—	81	20	326
New Brunswick															
Quebec	1,462	3	—	—	238	48	9	—	1,709	51	5,465	—	1,448	46	6,959
Ontario	4,811	108	10	—	525	188	36	2	5,382	298	20,958	52	4,200	233	25,443
Manitoba	244	—	—	—	42	13	21	4	307	17	1,064	—	294	131	1,486
Saskatchewan	203	—	—	—	29	9	2	—	234	9	869	—	254	31	1,154
Alberta	260	—	—	—	49	19	3	—	312	19	1,187	—	375	16	1,578
British Columbia															
Totals	7,135	111	10	—	914	292	77	7	8,136	410	30,116	52	6,754	487	37,409

See footnotes following Table 3.A.

TABLE 3.A. Production and Related Workers,⁴ — Manufacturing Activity, by Months, 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept¹

Month	Establishments reporting monthly detail	
	Male	Female
	number	
January	6,071	100
February	6,106	110
March	6,065	106
April	6,409	111
May	6,616	110
June	6,755	120
July	6,819	117
August	6,705	108
September	6,827	107
October	6,829	105
November	6,819	104
December	6,570	108
Average for establishments reporting monthly detail (collected only for large establishments)	6,550	108
Average for small establishments (only annual averages collected)	585	3
Average for all establishments	7,135	111

¹ See Table 2 and Explanatory Notes concerning manufacturing and non-manufacturing activities.

² See Explanatory Notes.

³ This category, in this table only, includes working owners and partners. Since administrative and office employees are engaged in a variety of activities they have been excluded from manufacturing activity beginning with the revised 1961 series shown in the following tables. They are included here for purposes of comparison with the tabulations of previous years.

⁴ Conceptually identical to previous years. See Explanatory Notes.

⁵ Cannot be reported separately for manufacturing and non-manufacturing activities but related substantially to manufacturing activity. Identical concept to previous years.

⁶ Working owners and partners were included with administrative and office employees in the "Manufacturing series" published in former years. See Explanatory Notes.

⁷ Includes production and related workers, administrative and office employees, sales distribution and other employees. See Explanatory Notes for the treatment of head office employees and those employed in auxiliary units.

⁸ Value of total shipments and other operational revenue less total cost of materials, supplies, fuels used and purchases of products and materials for resale in the same condition; all adjusted for inventory changes where required. See Table 2 and Explanatory Notes.

⁹ Sales and distribution workers and production workers (non-manufacturing) are included for the first time as a result of the full implementation of the new definition of the establishment. The figures for production workers (non-manufacturing), administrative and office employees and sales and distribution workers are not yet available for 1961 but form part of total employees. Sales and distribution workers may include some employees that are reported as part of a manufacturing establishment but are not working at the establishment's location. Head offices, sales offices, etc., which report separately are included in the figures for the province in which they are located.

¹⁰ Confidential data.

¹¹ Includes paid employees, working owners but excludes unpaid family workers.

Note: Figures may not add due to rounding.

TABLE 4. Materials and Supplies Used in Manufacturing Activity, 1962
 Basis: Revised Standard Industrial Classification and New Establishment Concept¹

Description		Quantity	Cost
			\$'000
1. Materials used:			
Castings (rough and semi-finished received from foundry):			
Iron (gray and malleable)	ton	1,023	351
Steel	"	2,897	774
Pig iron, all grades	"	137,819	8,397
Steel (except alloy steel):			
Bars	"	1,748	319
Plates (3/16 in. and thicker)	"	1,881	454
Sheets (under 3/16 in.):			
Plain	"	198	37
Galvanized	"	170	39
Tinplate	"	8	2
Strip	"	20	4
Structural shapes, unfabricated (channels, angles, etc.)	"	435	88
Wire	"	61	16
Alloy steel in all forms:			
Alloy steel (other than stainless and tool steel) .....		...	42
Stainless .....		...	122
Tool steel .....		...	10
Scrap iron and steel:			
Purchased	ton	292,576	10,805
Own make	"	9,460	...
Pipe and fittings, iron and steel .....		...	50
Other iron and steel .....		...	1,009
Ferro-alloys .....		...	1,381
Non-ferrous metals in all forms:			
Aluminum:			
Castings	pound	44,006	48
Sheet	"	22,342	13
Other forms	"	291,611	82
Brass and bronze	"	1,549,966	574
Copper	"	123,885	34
Lead	"	17,653	2
Nickel	"	1,213,461	1,036
Tin	"	1,397	2
Zinc	"	875,777	103
Babbitt metal and solders	"	5,401	3
Other non-ferrous metals .....		..	138
Other materials and supplies:			
Paints and varnishes .....		...	117
Foundry coke (used in cupola)	ton	73,321	2,633
Foundry sands (including core and moulding sands)	"	117,486	994
Plumbago and graphite	pound	738,664	65
Lumber	M ft. b.m.	1,505	151
Firebrick and cupola blocks .....		...	286
Fireclay	ton	11,966	121
Core oil	Imp. gal.	159,910	163
All other materials and components used ² .....		...	6,993
2. Containers and other packaging materials and supplies used			257
3. Operating, maintenance and repair supplies used (excluding fuel)			4,307
4. Amount paid out to others for work done on materials owned by establishments			432
Total			42,344

¹ See Explanatory Notes.

² No detailed information on materials used was collected from small establishments, the estimated costs for which are included here. In 1962 these estimated costs were \$1,555,865.

TABLE 5. Fuel and Electricity Used¹ in Manufacturing Activity,² 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept³

Description	Quantity	Cost
		\$'000
1. Large establishments which reported commodity detail:		
Bituminous coal:		
(a) From Canadian mines	ton 1,746	49
(b) Imported	" 27,199	401
Sub-bituminous coal (from Alberta mines only)	" 24	--
Anthracite coal	" 2,348	30
Lignite coal	—	—
Coke	ton 3,228	93
Gasoline (including gasoline used in cars and trucks)	Imp. gal. 359,320	131
Fuel oil including kerosene or coal oil	" 3,890,931	468
Wood	cord 713	6
Gas:		
(a) Liquefied petroleum gases	Imp. gal. 144,900	20
(b) Other manufactured gas	—	—
(c) Natural gas	M cu.ft. 302,396	239
Other fuel .....	...	8
Electricity purchased	kwh. 75,406,892	900
Steam purchased .....	...	47
2. Estimate for small establishments for which no data were collected:		
Fuel and electricity .....	...	151
3. All establishments:		
Total fuel and electricity used .....	...	2,545

¹ Does not include fuel and electricity produced for own use.

² Includes only fuel and electricity purchased. Conceptually identical to previous years in that it also includes relatively small amounts used in non-manufacturing activities since these cannot be reported separately.

³ See Explanatory Notes.

TABLE 6. Shipments of Goods of Own Manufacture, 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept¹

Description	Quantity	Value
		\$'000
1. Products:		
Commercial castings (sold as such):		
Grey iron	ton 113,043	29,138
Malleable iron	" 17,968	6,978
Non-ferrous castings:		
Aluminum	" 282	410
Copper alloy (brass, bronze, etc.)	" 479	690
Cast iron products (including grinding balls, ingot moulds, hydrants, etc. but excluding cast iron pipe and fittings)	ton ..	13,150
Cast iron pipe and fittings	ton 176,423	30,395
Malleable iron pipe fittings, all sizes	" 5,644	4,505
Machinery and parts .....	...	9,187
Plumbers brass fittings .....	...	68
Valves (iron, steel, brass and bronze) .....	...	830
All other products .....	...	11,352
2. Amount received in payment for work done on materials and products owned by others		32
Less adjustment for value of sales taxes, excise duties and outward transportation charges which could not be deducted from individual commodity items described above		(145)
Net adjustment for establishments receiving progress payments ²		864
Total adjusted value of shipments and work done		107,454

¹ See Explanatory Notes.

² See footnote 1, Table 7.

TABLE 7. Industry Inventories,¹ 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Province	Manufacturing				Non-manufacturing	Total Inventories
	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total manufacturing	Products or materials purchased for resale	
book value \$'000						
Opening: ³						
Newfoundland	} 127	—	75	202	332	534
Prince Edward Island						
Nova Scotia						
New Brunswick						
Quebec	1,578	540	1,624	3,742	31	3,773
Ontario	3,875	1,525	4,104	9,504	811	10,315
Manitoba	261	2	461	724	248	972
Saskatchewan	} 449	4	293	746	14	760
Alberta						
British Columbia						
Totals ⁴	6,440	2,101	6,857	15,395	1,486	16,881
Closing:						
Newfoundland	} 124	—	75	199	339	538
Prince Edward Island						
Nova Scotia						
New Brunswick						
Quebec	731	33	1,954	2,718	91	2,809
Ontario	3,980	1,728	5,051	10,759	810	11,569
Manitoba	324	4	609	937	308	1,245
Saskatchewan	} 566	4	318	888	20	908
Alberta						
British Columbia						
Totals ⁴	5,864	1,796	8,329	15,988	1,646	17,634

¹ Values represent book values of inventories 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.

² See Explanatory Notes.

³ The opening inventories may differ from the closing inventories for the previous survey 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.

⁴ Figures may not add due to rounding.

TABLE 8. Factory Shipments of Goods of Own Manufacture — All Industries¹
Cast Iron Pipe and Fittings, 1961 and 1962

	Ton	\$'000
1961		
Cast iron soil pipe:		
Under 6" inside diameter	32,590	5,103
6" inside diameter and over	10,312	1,884
Cast iron soil pipe fittings, all sizes	24,592	5,551
Cast iron water pipe and fittings, all sizes	116,550	16,899
Cast iron pipe fittings, other	10,185	3,505
Malleable iron pipe fittings, all sizes	5,488	4,277
Totals	199,717	37,221
1962		
Cast iron soil pipe:		
Under 6" inside diameter	34,094	5,684
6" inside diameter and over	12,269	2,293
Cast iron soil pipe fittings, all sizes	21,550	5,242
Cast iron water pipe and fittings, all sizes	128,890	19,071
Cast iron pipe fittings, other	6,082	2,945
Malleable iron pipe fittings, all sizes	5,644	4,505
Totals	208,529	39,740

¹ Includes shipments from other industries which manufacture, as a secondary activity, the commodities listed here.

TABLE 9. Total Production of Iron Castings and Materials Charged to Cupolas, 1959-62

		1959	1960	1961	1962
Pig iron used ¹	net ton	300,000	261,000	249,000	279,000
	\$'000	17,789	15,291	15,788	16,855
Scrap iron and steel used: ¹					
Purchased	net ton	532,000	490,000	517,000	512,000
	\$'000	21,163	18,701	19,406	19,087
Own make	net ton	129,000	103,000	116,000	139,000
	\$'000	4,933	4,048	3	3
Coke used in cupolas or melting furnaces (purchased only) ¹	net ton	150,000	141,000	129,000	127,000
	\$'000	5,032	4,625	4,494	4,527
Iron castings made (whether for sale or own use):					
Grey and white iron castings ² (except pipe and fittings)	net ton	605,000	525,000	475,000	487,000
Malleable iron (except fittings)	"	36,000	28,000	28,000	32,000
Cast iron pipe and fittings ³	"	206,000	185,000	188,000 ⁴	207,000
Malleable iron pipe fittings ⁵	"	9,000	5,000	5,000	8,000
Total castings	"	856,000	743,000	696,000 ⁴	732,000

¹ As a result of changes in classification brought about by the implementation of the revised Standard Industrial Classification (S.I.C.) and the New Establishment Concept, totals for these materials, since 1960, include usage reported by some steel foundries. Consequently, totals since 1960 are not exactly comparable with previous years.

² Commencing with 1961 no value assigned to "scrap iron and steel—our make" as was done in prior years, hence values are no longer available.

³ Details of "own make" previously included on an estimated basis have been eliminated for the years 1958 to 1961.

⁴ Compiled from data submitted by the 200 iron foundries which report monthly and which, it is estimated, account for about 95 per cent of the total production. These figures have been expanded to 100 per cent.

⁵ Factory shipments.

TABLE 10. Capital and Repair Expenditures, 1960-62

Year	Capital expenditures			Repair expenditures			Total capital and repair expenditures		
	Construction	Machinery and equipment	Sub-total	Construction	Machinery and equipment	Sub-total	Construction	Machinery and equipment	Total
	\$'000								
1960	1,140	1,590	2,730	427	3,066	3,493	1,567	4,656	6,223
1961	719	3,903	4,622	429	3,297	3,726	1,148	7,200	8,348
1962	1,966	7,729	9,695	405	3,629	4,034	2,371	11,358	13,729

Source: Business Finance Division. — DBS.

List of Establishments, 1962

Note: The following list includes only names of the establishments which have been classified to this particular industry. It is not intended to be a complete list of iron foundries in Canada.

Name	Location
Newfoundland:	
Corner Brook Foundry and Machine Co., Ltd.	Corner Brook
United Nail and Foundry Co., Ltd.	St. John's
Prince Edward Island:	
Parker Foundry	Georgetown
Nova Scotia:	
Dartmouth Iron Foundry	Dartmouth
Hillis and Sons, Ltd.	Halifax
New Glasgow Foundry	New Glasgow
New Brunswick:	
Courtenay Iron and Brass Foundry	Saint John
McLennan Engineering Works Ltd.	Campbellton

List of Establishments, 1962 - Continued

Name	Location
Quebec:	
Bergeron, M. Lucien A.	St. Julie Station
Canada Iron Foundries Limited	Three Rivers
Fonderie Binette Inc.	Laurierville
Fonderie Fortin Enr.	Waterloo
Fonderie Gosselin Inc.	La Pêrade
Fonderie Napierville Enrg.	Napierville
Fonderie Savole	Ste-Marie de Beauce
Fonderie St. Hyacinthe Ltd.	St. Hyacinthe
Fonderie St. Louis	St. Louis de Bonsecours
General Foundry Co.	Windsor Mills
Grand'Mère Foundry Ltd.	Grand'Mère
La Compagnie Dussault et Lamoureux	St. Hyacinthe
La Fonderie Begin et Gingras Enrg.	Québec
La Fonderie Beloeil, Ltée	Beloeil Station
La Fonderie Canadienne Enrg.	St. Jean
La Fonderie de Lauzon Ltée	
La Fonderie Ste. Croix Ltée	Ste. Croix
La Fonderie de Thetford	Thetford Mines
La Fonderie Laperle Ltée	St. Ours
La Fonderie Magog, Ltd.	Magog
La Fonderie Paquette Inc.	Laprairie
La Fonderie St. Romuald, Enrg.	St. Romuald
La Fonderie de Sully	Sully
Laroche, Zepherin, et Frères Ltée	Pont Rouge
Lavoie, Euchariste, Fils Enrg.	Baie St. Paul
Lefebvre, Jean Charles, (Fonderie St-Placide)	St-Placide
Légaré Foundry Limited	Sherbrooke
Mace Foundry Co.	Montreal
Montreal Foundry Limited	Montreal
Monsarrat Machinery and Foundries Ltd.	Rivière-du-Loup
Paul Bros. Foundry, Limited	Laprairie
Pont Viau Foundry Ltd.	Pont Viau
Quebec Iron Foundries Ltd.	Mont Joli and Noranda
Quemont Mfg. Co. Ltd.	Montreal
Rigaud Foundry Limited	Rigaud
St. Jérôme Industries Ltd.	St. Jérôme
Shawinigan Foundries, Limited	Shawinigan Falls
Union Foundry Limited	Granby
Viau, M.J. et Fils, Ltée	St. Jérôme
Ontario:	
Alloy Foundry Co., Ltd.	Merrickville
Auto Specialties Mfg. Co. (Canada) Ltd.	Windsor
Bell City Foundry (Brantford) Ltd.	Brantford
Benn Iron Foundry	Wallaceburg
Bibby Foundry Ltd.	Galt
Bowmanville Foundry Company Limited	Bowmanville
Brown Foundry Ltd.	Morrisburg
Canada Iron Foundries Limited	Hamilton ² ; Toronto
Canada Iron Foundries Limited (National Iron Division)	Toronto
Canadian General Electric Co., Ltd.	Toronto
Cobalt Foundry Limited	Cobalt
Cornwall Brass and Iron Foundries Ltd.	Cornwall
Crawford Machine and Foundry Limited	Woodstock
Crowe Foundry Limited	Hespeler
Cunningham Foundry and Machine Co., Ltd.	St. Catharines
Date Industries Ltd.	Ayr
Davidson Foundry	Ottawa
Designed Precision Castings Ltd.	Brampton
Domestic Foundry	Windsor
Eureka Foundry and Manufacturing Co., Limited	Woodstock
Fairbank Foundry	Toronto
Fergusson, J.R. Company	Dundas
Fittings Limited	Oshawa
Galt Malleable Iron Limited	Galt
General Casting Company	Brantford
Gies, Philip, Foundry Ltd.	Kitchener
Grinnell Company of Canada, Limited	Toronto
Hamilton Foundry Co., Ltd.	Hamilton
Hastings and Sons Foundry Ltd.	Stratford
Holmes Foundry Company, Limited	Sarnia
Hopper Foundry Limited	Forest
Imbleau, H., and Son	Renfrew
International Malleable Iron Co., Ltd.	Guelph
Keleher Foundry Co.	Guelph
Kent Foundry Ltd.	Chatham
Lawson, Thos., and Sons, Ltd.	Ottawa
Lincoln Foundry Ltd.	St. Catharines
Link-Belt Limited	Elmira
London Concrete Machinery Co. (Hartley Foundry Division)	Brantford
McCoy Foundry Co., Ltd.	Hamilton
Marshall, A., Foundry	Windsor
Massey-Ferguson Ltd.	Brantford
Niagara Foundry Company Ltd., The	Niagara Falls
Ontario Malleable Iron Co., Ltd.	Oshawa
Power Box Mfg. Co., Ltd.	Agincourt
Rempel, Ernest, Casting Ltd.	Grimsby
Shantz, P.E., Foundry	Preston
Smiths Falls Malleable Castings Limited	Smiths Falls

List of Establishments - Concluded

Name	Location
Ontario—Concluded:	
Standard Foundry and Supply Co., Ltd.	Windsor
Stanton Pipes (Canada) Ltd.	Hamilton
Tomlinson, Industries Ltd.	Toronto
United Steel Corporation Limited	Toronto
Victoria Foundry Co., Ltd.	Ottawa
Wabi Iron Works, Limited	Sudbury
Walker Metal Products Limited	Windsor
Walkerton Foundry	Walkerton
Weiland Iron and Brass Ltd.	Welland
Wells Foundry Limited	London
Woodside Machinist and Foundry Co.	Port Arthur
Wotherspoon, J.A., and Son Ltd.	Oakville
Manitoba:	
Anthes-Imperial Co., Limited	Winnipeg
Beil Foundry Co., Ltd.	St. James
Dominion Foundry Co.	Winnipeg
Osborne Foundries Ltd.	Winnipeg
Thor Foundry Ltd.	St. Boniface
Saskatchewan:	
Blanchard Foundry Co. Ltd.	Saskatoon
Norwood Foundry (Sask.) Ltd.	Regina
Alberta:	
Anthes-Imperial Co., Ltd.	Calgary and Edmonton
Nichols Bros. Limited	Edmonton
Norwood Foundry Co., Ltd.	Edmonton
British Columbia:	
Associated Foundry Ltd.	Vancouver
Cranbrook Foundry Company Limited	Cranbrook
Dobney Foundry Co., Ltd.	New Westminster
McLean and Powell Iron Works	Vancouver
Mainland Foundry Company, Ltd.	Vancouver
Milbourne Foundry	Vancouver
Nye's Foundry Ltd.	Vancouver
Peach City Foundry	Penticton
Pioneer Foundry	Port Alberni
S.P. & F. Foundry Ltd.	North Burnaby
Terminal City Iron Works, Ltd.	Vancouver
Victoria Foundries Ltd.	Victoria

EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1962 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and special reports on geographical distribution and on type of ownership and size of establishments.

With the publication of the results of the 1962 Census of Manufactures, the Bureau has completed a major revision in the classification and concept of its annual census of manufacturing establishments. Because of its size and complexity, this project had to be carried out in three stages. The first stage was the change in classification and the results of the 1960 Census, together with the re-compilation of the 1957, 1958 and 1959 Censuses were published in the 1960 reports on the basis of the revised Standard Industrial Classification. This part of the project was confined entirely to a re-coding of existing reporting units. The second stage consisted of the implementation of the new definition of the reporting unit i.e. "establishment" as it applied to **manufacturing activities** of manufacturing establishments (See following note on "Establishment"). Results of the 1961 Census reflected this change in concept and, in order to provide comparability of data for recent years, the 1961 reports contained principal statistics on the basis of the new establishment definition for years back to 1957.

The third stage which was the extension of the definition of the establishment to cover **total activities** of manufacturing establishments is reflected in the statistics for 1961 and 1962 contained in this report. This full implementation of the new definition of the establishment has resulted in an extension of the data to non-manufacturing activities of manufacturing establishments and in additional changes in the 1961 statistics of manufacturing activities. Statistics on manufacturing activities will continue to be shown separately as in the past but, beginning with 1961, data on all operations (total activity) of manufacturing establishments will also be given. By definition "total activity" relates to all operational data and excludes such non-operational items as rent, interest and dividends. In addition, statistics on man-hours paid will be included as part of the regular series of industry statistics. For many industries, adjustments and revisions were made to the 1961 data on **manufacturing activities** which were published during the second stage to bring them in line with reporting procedures followed in the 1962 Census and to reflect the final application of the new concept. The 1961 statistics on manufacturing activities contained in this report are thus not entirely comparable with those published in the 1961 reports. However, the 1961 statistics are shown in this publication in both their original and revised forms in order to provide a link with the immediate past. A more complete account of recent changes and additions and brief descriptions of the principal industry statistics are given in following sections of these notes.

Standard Industrial Classification

The revised Standard Industrial Classification which was introduced with the 1960 Census of Manufactures and applied to the results of the 1957, 1958 and 1959 censuses provides for a breakdown of the manufacturing universe into 140 industries arranged in 20 major groups. Custom Tailoring Shops is the only industry class in the Manufacturing Industries Division of the classification which is not covered in the annual Census of Manufactures. It is surveyed as part of the Decennial Census of Merchandising and Service Establishments. Of the 140 "three-digit" industry classes in the Manufacturing Industries Division, 21 are further broken down into 67 "four-digit" sub-classes. With the exception of the Wood Preservation and Sound Recording industries, the figures for which are at present confidential and have to be included with those of related industries, the statistics for all of the "four-digit" sub-classes are published regularly. Thus, at the Canada level, principal statistics are compiled for 183 industries. These cannot all be published separately by province because of the confidential nature of the data in certain provinces.

Reporting establishments are classified or allotted to specific industries in the classification system on the basis of the value of principal products made or shipped. In general, establishments primarily engaged in repair work (Shoe Repair Shops, Motor Vehicle Repair Shops etc.) are not included in manufacturing industries. Exceptions are establishments primarily engaged in furniture, ship, boat, aircraft and railroad rolling stock repairs which are classified to the manufacturing industries producing the products involved. Establishments primarily engaged in assembling parts into complete units have always been included in manufacturing industries.

Full details concerning the revised classification system are contained in the Standard Industrial Classification Manual, Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics.

It should be noted that two new industries (Poultry Processors and Dental Laboratories) and three new groups of establishments (book publishers in the Publishing Industry, electro-plating establishments in the Metal Stamping, Pressing and Coating Industry and prescription branches in the Ophthalmic Goods Manufacturers Industry) have been included in the 1961 (revised) and 1962 Census statistics and will continue to be included thereafter. They were surveyed for the first time in the 1960 Census (1961 Census in the case of prescription branches) in line with the revised classification but, since they did not represent new production, they were removed from the 1960 and 1961 compilations published in the 1961 Census reports in order to provide complete comparability of data over the period 1957-61. Statistics for this period are repeated in the 1962 reports to supply a link with the revised 1961 data and the new 1962 statistics.

Establishment

The reporting unit in the Census of Manufactures is the **establishment**. The majority of establishments are firms, but many firms have more than one manufacturing establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements described below.

Beginning with the 1961 Census of Manufactures the establishment is defined as follows:

"The smallest unit which is a separate operating entity capable of reporting all 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,
- Inventories,
- Shipments or sales."

Following is a description of the main features of the new establishment concept introduced in the 1961 Census, how they differ from those of the old "activity" concept and the steps taken to correct for breaks in continuity.

(a) The establishment is to be distinguished from smaller subdivisions or departments which do not have records that permit them to report all items required of an establishment. Prior to 1961, some establishments were required to submit two or more separate reports when they were engaged in activities which were classifiable to different industries. Beginning with 1961, separate reports for such activities are required only in cases where accounting records can provide the necessary input and output elements of principal statistics. Special reporting arrangements were made with respondents when the acceptance of combined reports would have seriously affected the statistics for particular industries or areas. Where continuity of industry statistics was affected by this change in reporting procedures, adjustments to the data were made back to 1957 in order to maintain comparability of the series for recent years.¹

(b) A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing activities. Prior to 1961, the Census of Manufactures attempted to cover the manufacturing activities of all establishments, whether or not they were primarily engaged in manufacturing. Beginning with the 1961 Census, establishments (accounting entities) which are not primarily engaged in manufacturing are no longer included as manufacturing establishments in the basic industry statistics.¹

¹ Most of these adjustments were made when the results of the 1961 Census were being compiled. Since publication of these results in the 1961 reports additional adjustments were made to the 1961 data, as noted earlier, and these are reflected, where applicable, in the revised 1961 statistics contained in this report.

Again, adjustments were made to reflect the removal of such reporting units for the period 1957-60. These reporting units are now listed as establishments in other Bureau surveys, such as Wholesale Trade, Construction etc. This has resulted in a somewhat smaller universe represented by the Census of Manufactures. In terms of overall 1960 Census results, the number of establishments transferred to other industries totalled 2,786 or 8% but these represented only 0.7% of total employment and of total value of shipments of manufactured products. In order, however, to maintain complete coverage of certain commodity items produced mainly in manufacturing establishments, many non-manufacturing establishments are now surveyed by the Industry Division for commodity shipments only and the latter are included in those tables of industry reports showing shipments of certain commodities "from all industries".

(c) A manufacturing establishment may be, and often is, engaged in other activities in addition to its principal manufacturing activity. Prior to 1961 the main emphasis in the Census of Manufactures was on manufacturing activity. Beginning with 1961, each establishment reports on all the activities carried out within its accounting boundaries (except income from investments such as rent, interest and dividends) and data on different activities (manufacturing, trading in goods not of own manufacture, construction by own labour force, revenue from services etc.) are requested separately. However, the statistics published in the 1961 reports were confined to manufacturing activity only in order to maintain comparability with previous years and to permit a more thorough audit of the new data. The 1962 reports contain principal statistics on total activities of manufacturing establishments for 1961 and 1962 with the main elements of manufacturing activity shown separately as in the past. It should be noted that the statistics for separate activities are not completely consistent. Some respondents cannot distinguish in their records materials, shipments and inventories relating to own manufacturing activities from those relating to goods not of their own manufacture or to other activities and can report operational data in total only under manufacturing activity. This situation has always existed, however, and is not considered important enough to invalidate the use of the data in the measurement of manufacturing as an "activity". The values assigned by the respondent to materials and shipments of own manufactured goods include costs in varying degrees that relate to internal (to the establishment) transportation, warehousing and selling activities, but it is not possible to make adjustments to arrive at a uniform valuation for manufacturing activity only; although valuation at the establishment "boundary" must be accepted, the items valued under manufacturing activities still relate, in most cases, to "goods of own manufacture". In the case of employment only data on manufacturing production workers and manufacturing man-hours can be assigned, in total, to manufacturing activity; administrative and office employees can seldom be allocated to separate activities.

Complete consistency, therefore, can be obtained only at the "all operations" (total activity) level, and for studies or statistical measures requiring accurate co-ordinated data, the "total" statistics should be used.

(d) Additional changes resulted from intensive editing and follow-up consistent with the introduction of the new concept. An example of such changes is the provision for the elimination, in total, of sales taxes and outward transportation charges from value of shipments. Prior to 1961, although the value of shipments for each product was requested excluding taxes and transportation charges, no allowance had been made for the reporting of these items in total when the respondents' records did not permit their deduction from the values of the individual products. Another example is a change in the valuation of shipments where, prior to 1961, a manufacturing company operating warehouses or sales outlets was reporting value of shipments in terms of an estimated manufacturer's price in accordance with the old activity concept, even though his records were not kept on this basis. Since the accounting boundary in such cases extends to distribution operations, the respondent was instructed in 1961 to report shipments at the final selling price in order to obtain more realistic and accurate data.² Adjustments were made to the value of shipments for the period 1957-60 to reflect such changes and maintain continuity of the shipments data. Since no actual data to make these corrections were available for back years, 1961 adjustment ratios were applied to the previous years for each industry affected, on the assumption that the valuation changes in 1961 applied in equal proportions to the preceding period.³

(e) The new concept also demands that inventories held apart from plant be included with plant inventories if establishment boundaries extend to warehouses and sales outlets. Prior to 1961, compilations took into account only the inventories held at plant. In this case, however, most of the missing data were available from supplementary questions in the Annual Census and from the Monthly Inventories and Shipments Survey and actual corrections could be made for previous years.

² Some manufacturing firms operate sales branches or selling warehouses as separate sales establishments for which complete accounting records of receipts, expenses, employment and sales are maintained. In such cases the plants, in effect, "sell" to the sales outlets on much the same basis as they would to independent buyers. The value of plant shipments is based on factory prices and the "boundary" of the manufacturing establishment does not extend beyond the plant. The sales outlets in such cases constitute separate sales establishments and are classified to wholesale or retail trade. Some sales outlets of manufacturing firms, although they physically handle products of the plants, do not maintain separate accounts and are generally treated for statistical purposes as extensions of manufacturing operations. Special arrangements were made for separate reporting in a few cases where the treatment of such outlets as manufacturing extensions would seriously affect the significance of statistics for particular manufacturing and trade industries.

³ See footnote 1.

(f) Prior to 1961 the Census of Manufactures did not have complete coverage of head and administrative offices and had never surveyed separate sales offices, warehouses or laboratories operated by manufacturing firms. Beginning with the 1961 survey, complete coverage of these auxiliary units was effected. In the past the employment and salaries and wages of those head and administrative offices that were surveyed were either coded in total to the industry in which the greatest portion of the company's manufacturing activities was classified or else, in the case of certain large multi-unit firms with establishments in several industries, were pro-rated among the different industries involved. In the original 1961 statistics published in 1961 reports, the same coverage and treatment of head offices was applied to maintain comparability over the 1957-61 period. Beginning with the revised 1961 statistics, all head offices and auxiliary units are covered and are processed according to the methods described below.

1. Single-Establishment Companies

In the great majority of cases central administrative and executive personnel of companies consisting only of one establishment are generally located at the site of the manufacturing plant and are automatically included in the plant reports. Where head offices and auxiliary units are geographically separate from plant locations and employ a sizeable number of workers they are surveyed on special questionnaires.

Separately located head offices, sales offices, administrative offices and other separate auxiliary units (laboratories, warehouses, etc.) do not usually constitute separate establishments⁴ for purposes of industry statistics since they do not normally generate operational revenues but give rise only to costs of operation (mainly salaries and wages) which make up part of the selling price of manufactured products and which are thus included in the value of shipments or sales. Where such units belong to single-establishment companies, they will be considered as extensions of the establishment's boundaries and their operations consolidated with the establishment's total activity.

2. Multi-Establishment Companies

In the case of companies with more than one establishment the following rules are applied:

(i) Where all the establishments of a company are classified to the same (three-digit) industry, the head office and other auxiliary units are coded to that same industry.

(ii) Where the establishments of a company are not all classified to the same (three-digit) industry but are coded to different industries, or industries in different industry groups or even different divisions

⁴ See footnote 2 for exceptions.

of the Standard Industrial Classification, the inclusion of data for head office and auxiliary units in any one of the (three-digit) industries concerned would distort the relationship between items of principal statistics. In such cases, the auxiliary units are coded at the group (two-digit) level in tabulations of industry statistics. Where multi-establishment companies cut across group or major division lines of the Classification, the head office and auxiliary units will be coded to the (two-digit) industry group in which the major part of the company's operations are classified. Although this may result in some distortion of (two-digit) industry group statistics it will eliminate distortion within groups as it will leave statistics at the (three-digit) industry level free of these company-wide data.

Period Covered

Respondents are asked to submit figures for the calendar year, if at all possible, and most reports are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where respondents find it impossible to supply calendar year data from accounting records. However, the data on employees, salaries, wages and man-hours are requested on a calendar year basis in all cases.

When establishments are operated for only a portion of a year, a report is required covering the period of operation.

Working Owners or Partners

Beginning with the revised 1961 statistics working owners and partners of unincorporated businesses are shown as a separate category in the principal statistics and are neither included in the number of employees nor in 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. In all previous reports of the Census of Manufactures these workers were included as part of the number of administrative and office employees and their withdrawals were included as part of salaries. Withdrawals are defined as amounts withdrawn by owners or partners for normal living expenses, excluding withdrawals for payment of income tax.

Number of Establishments

The number of establishments represents the number of operating units (accounting entities as per the new definition of the establishment) for which separate reports are submitted. Head offices located apart from establishments and which are surveyed separately and separate sales and administrative auxiliaries that are treated as extensions of manufacturing activities are not included in the establishment count. However, the operational statistics (employment, salaries etc.) of such auxiliary units which are coded at the "three-digit"

level are included in the principal statistics of industries coded at the same level; those units coded at the "two-digit" level are included with the statistics for groups of industries.

Employees

As noted above, the number of working owners and partners are excluded from the number of employees, beginning with the revised 1961 statistics. This change brings the definition of "employees" in the Census of Manufactures in line with that of "employees" in the Bureau's monthly Employment Survey and with that of "paid workers" in the Bureau's Labour Force Survey. For purposes of historical comparisons, the number of working owners and partners should be added to total employees (beginning with the revised 1961 data) in order to correspond with the figure of "total employees" published in previous reports concerned with the Annual Census of Manufactures.

In addition to production and related workers engaged in manufacturing activities, total employees include administrative, office, sales and distribution workers as well as any production workers employed in non-manufacturing activities such as construction undertaken for the use of the establishment by its own employees (when these are treated as a separate work force) or logging (mostly in connection with sawmills or planing mills). Number of employees represents as closely as possible equivalent annual full-time employment. Adjustments are made when reported figures indicate the existence of part-time or seasonal employment.

Administrative and office employees include all executive and supervisory officials such as presidents, vice-presidents, controllers, secretaries, treasurers etc., together with managers, professional, technical and research employees, superintendents and factory supervisors above the working foreman level, and clerical staffs. Also included are employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical etc. Sales and distribution workers include office personnel whose salaries are charged to selling expense, travelling salesmen, driver salesmen, truck drivers and their helpers, etc. They exclude persons working on a commission basis who are not considered regular employees.

Production and related workers in manufacturing activities include, in addition to those engaged in processing and assembling, those employed in storing, inspecting, handling, packing, warehousing, etc. They also include employees in related activities such as maintenance, repair, janitorial and watchman services. Working foremen doing similar work to that of employees they supervise are also included. Production workers employed in non-manufacturing activities such as construction undertaken for the use of the establishment, logging

employees or outside piece-workers employed in certain industries are excluded from the number of production and related workers but are part of the total number of employees in those industries.

Production and related workers 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 twelve. This procedure is followed even though the plant did not operate in all months in order to derive equivalent annual full-time employment. The numbers are somewhat affected by turn over, in that employment is overstated when an employee changes employment within the same industry during a pay period. Other categories of workers are reported in the form of annual averages. Figures on employment and man-hours refer to the calendar year whether or not some establishments report other data on a financial year basis.

Man-hours of production and related workers in manufacturing activities 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.

Salaries and Wages

Salaries and Wages refer to gross earnings of the employees described above, **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 workers' earnings. Payments for overtime are included.

Wages refer to amounts paid to production and related workers engaged in manufacturing operations as defined above. Salaries refer to amounts paid to all other categories of employees including relatively small numbers of production workers engaged in construction and extractive operations or who are employed as outside piece-workers. Figures on salaries and wages refer to the calendar year whether or not some establishments reported other data on a financial year basis.

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.

Materials and Supplies

(a) Used in 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. The statistics represent only commodity items or physical goods (costs 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. Respondents are required to report materials and supplies **used not purchased**. 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) Purchases for resale as such. Figures represent the 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.

(c) 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. Value of construction and repair work done by outside contractors is 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 medical supplies, laboratory supplies etc.

Shipments

In general the figures represent revenue from all production, sales, services and related activities of reporting establishments. Non-operating revenues such as rent, interest and dividends and the sale of used fixed assets are excluded.

(a) 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 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. (See notes on "Establishment").

Such shipments are net of returned goods, and value figures at the establishment exclude discounts, returns, allowances, sales taxes and excise duties, returnable containers, and charges for outward transportation by common or contract carriers. Transportation or delivery expenses incurred by the reporting establishments' own carriers are not deducted.

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 form B.13 "Customs Canada, Export Entry" has been completed, are treated as shipments.

In four industries, viz. Fabricated Structural Metal Industry, Aircraft and Parts Manufacturers, Railroad Rolling Stock Industry and Shipbuilding and Repair, where work on principal products extends over a relatively long period, the value of production, rather than the value of shipments, is recorded. For these industries value of production is computed from the value of deliveries of complete units during the year plus the value of work done during the year on unfinished units less the value of work done in previous years on units delivered in the year under review. Adjustments to the value of shipments are also made for firms in these industries and in some other industries which operate on the basis of progress payments. The latter are treated as sales and not as inventory, so that for firms which use a progress payments account, an adjustment to the value of shipments is made for the net change in this account during the year.

(b) Shipments of goods not of own manufacture

These figures represent the net selling value at the establishment (less discounts, returns, allowances, sales taxes and excise duties 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 goods on a rental basis value of shipments represents the book value of such goods. All sales of consignment goods from other countries are included.

(c) Other revenue

Figures represent the book value of fixed assets, if any, (new construction and machinery and equipment including major repairs and alterations, additions, modifications, installation and assembly work) produced during the year for the use of reporting establishments by the establishments' 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 establishments' own employees, such as revenue from goods produced for rental (the book value of such goods are included as part of factory shipments), servicing revenues, commissions on sales (when not included in value of sales), revenue from company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishments' 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 inventory

Values represent the book value of manufacturing inventory owned in Canada. The value of inventory held for which progress payments have been received is treated as shipments and is not included in inventory owned. 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. Inventory owned abroad has already been reported as shipments and is excluded.

(b) Inventory of goods purchased for re-sale

Figures represent the book value of inventory of goods purchased for re-sale as such without further processing, owned by reporting establishments and held at the plants and at any warehouses or selling outlets which are treated as extensions of establishments. Inventory owned in transit in Canada or on consignment in Canada is included.

Because of changes in classification, the receipt of revised data, the inclusion of new establishments or the removal of old establishments which did not operate during the latest year, the opening inventory for the latest year does not necessarily coincide with the closing inventory of the preceding year.

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).



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(b) By total activities

Figures consist of value added by manufacturing activities plus value added by non-manufacturing activities and is compiled by deducting the cost 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, adjusted for changes in the value of inventories of goods purchased for re-sale.

"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 factory cost", it would be necessary to subtract also the cost of advertising, insurance and other business expenses which are not collected in 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.

Short Forms

Since 1949, in order to ease the reporting burden for smaller firms, a one-page short form has been used asking for only a limited amount of detail. For purposes of publication, missing data were estimated on the basis of appropriate ratios. Beginning with the 1959 census, the general limit for short forms was raised from \$50,000 (the limit used since 1949) to \$100,000 value of shipments and a new medium form was used. This form is a shortened version of the long form in that some of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between \$100,000-\$500,000 value of shipments, but in the case of both the

short and medium forms there are lower cut-offs for a number of industries in which the smaller firms account for a larger share of total shipments.

Prior to 1961, the short form was limited to a question on the principal items of factory shipments. In the 1961 and 1962 censuses, in addition to the question on shipments of goods of own manufacture, general questions on employment and payroll and on total revenue were added on all short forms. The other elements of principal statistics, viz. value of materials, fuel and electricity and inventories, were estimated by using ratios based on the change in the value of shipments reported in 1961 and 1962. This was done to permit the complete compilation of basic industry statistics by industry and by geographic location. The proportions of the estimated data was generally less than 5 per cent of the total in each category of principal statistics.

Beginning with the 1963 census, general questions on total purchases of materials, fuel and electricity and on total inventory were added on the short forms. The two questions, however, were designed so that the data can be easily derived from respondents' regular accounting records. This will permit a complete tabulation of principal statistics without the necessity of estimating missing items and will result in increased accuracy for rural area statistics where small firms account for a relatively important part of industrial output.

The addition of extra questions on the short form in recent years has also permitted an increase in the cut-off limits for short forms in many industries. This has meant that many more firms are now receiving the short form instead of the long or medium form. It has also resulted in the withdrawal of the medium form in a number of industries, thus further simplifying collection and tabulation procedures.