



MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
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Iron and Steel Scrap, Monthly

IRON AND STEEL SCRAP IN DECEMBER 1976

Returns from 75% of reporting consumers representing 92% of total scrap consumption, indicated that consumption of iron and steel scrap in December 1976 on a daily average basis was 7% below that in November, according to the Bureau of Mines, U.S. Department of the Interior. Compared with November data, daily average production and net receipts were down 6% and 8%, respectively, and stocks at the end of the month were essentially unchanged.

Exports of ferrous scrap during the month were 18% above those for November 1976 and 1% above those for December 1975. Japan was the largest importer of U.S. scrap, taking 31% of the total exported in December 1976. The next largest importers were Spain and Korea, which received 15% and 12%, respectively.

The Iron Age composite price for No. 1 heavy melting steel scrap (Chicago, Pittsburgh, and Philadelphia) at the end of December was \$70.17 per long ton, up 3% from the price of \$68.17 at the end of December 1975.

Pig iron production and consumption on a daily average basis during the month were both down 5% from those of the previous month. Stocks of pig iron increased 2% during December compared with those at the end of November 1976.

Severe weather and gas shortages during January interfered with steel mill and steel fabricating operations. These factors, together with their influence on scrap collection and shipments, resulted in a reduced number of scrap transactions so that the composite price of No. 1 heavy melting steel scrap during January was essentially unchanged and was quoted in Iron Age at \$72.17 per long ton throughout the month of January.

The Interstate Commerce Commission ruled in February that rail freight rates for scrap iron and steel were "just and reasonable" on all U.S. carriers. The Commission stated that "while there is competition between integrated and non-integrated steel mills, there is no competition between iron ore and scrap." It also stated that "in all three territories" (those of the eastern, southern and western railroads) "the current freight rates are not affecting the movement of scrap iron and steel." The 1-year investigation, designated Ex Parte 319, was conducted under the provisions of the Railroad Revitalization and Regulatory Reform Act of 1976 (P.L. 94-210).

Correction: The figures for imports of scrap in August 1976 were incorrect. Imports of scrap in August totaled 48,741 short tons, of which 31,278 tons came from Canada and 17,463 tons from other sources.

Prepared in the Division of Ferrous Metals, March 2, 1977.

TABLE 1. - U.S. RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, BY TYPE OF MANUFACTURER (SHORT TONS)

	DECEMBER 1976 (PRELIMINARY) 1/				
	MFRS. OF PIG IRON AND STEEL INGOTS & CASTINGS 2/	MFRS. OF STEEL CASTINGS 3/	IRON FOUNDRIES AND MISCEL- LANEOUS USERS	TOTAL FOR MONTH OF DEC 1976	FINAL TOTAL FOR MONTH OF NOV 1976 4/ TOTAL YEAR THROUGH DEC 1976 3/
SCRAP:					
RECEIPTS FROM DEALERS AND OTHER SOURCES	1,721,411	156,745	768,890	2,647,046	2,788,842
RECEIPTS FROM OTHER OWN COMPANY PLANTS	423,787	8,319	278,656	712,762	792,240
PRODUCTION RECIRCULATING SCRAP	2,907,977	78,515	421,443	3,407,935	3,504,222
PRODUCTION OBSOLETE SCRAP	245,246	1,199	9,018	255,463	281,749
CONSUMPTION	4,885,501	231,654	1,490,149	6,607,304	6,872,624
SHIPMENTS	390,575	2,901	24,123	417,199	491,560
STOCKS END OF MONTH	8,573,175	258,796	1,082,052	9,914,023	9,889,682
PIG IRON:					
RECEIPTS	459,307	3,692	192,717	655,716	649,242
PRODUCTION	6,270,319	--	--	6,270,319	6,384,352
CONSUMPTION	6,079,264	3,542	187,318	6,270,124	6,401,798
SHIPMENTS	629,545	2	1,028	630,575	627,139
STOCKS END OF MONTH	1,380,998	7,019	128,828	1,516,845	1,491,521
DIRECT-REDUCED OR PREREDUCED IRON:					
RECEIPTS	--	--	--	18,595	31,327
PRODUCTION	--	--	--	--	--
CONSUMPTION	--	--	--	18,122	31,260
SHIPMENTS	--	--	--	--	--
STOCKS END OF MONTH	--	--	--	4,647	4,420

1/ BASED ON RETURNS FROM 75% OF REPORTING CONSUMERS, REPRESENTING 92% OF SCRAP CONSUMPTION.

2/ INCLUDES ONLY THOSE MANUFACTURERS OF STEEL CASTINGS THAT ALSO PRODUCE INGOTS.

3/ EXCLUDES COMPANIES THAT PRODUCE BOTH STEEL INGOTS AND CASTINGS.

4/ BASED ON RETURNS FROM 84% OF REPORTING CONSUMERS, REPRESENTING 97% OF SCRAP CONSUMPTION.

5/ CUMULATIVE TOTALS MAY NOT AGREE WITH SUM OF MONTHLY REPORTS BECAUSE OF ADDITION OF REPORTS FROM LATE RESPONDENTS.

TABLE 2. - MANUFACTURERS OF PIG IRON AND STEEL INGOTS AND CASTINGS 1/ - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, DECEMBER 1976 (PRELIMINARY) 2/ (SHORT TONS)

ITEM	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP			CONSUMPTION OF BOTH PURCHASED AND HOME SCRAP			ENDING STOCKS
	FROM BROKERS, DEALERS AND OTHER SOURCES	FROM OTHER OWN COMPANIES	FROM RECYCLATING SCRAP (INCLUDES INGOTS, MOLD, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOTS, MOLD, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING SCRAP)	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOTS, MOLD, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING SCRAP)	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOTS, MOLD, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING SCRAP)	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOTS, MOLD, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING SCRAP)	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOTS, MOLD, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING SCRAP)	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOTS, MOLD, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING SCRAP)	
SCRAP:										
CARBON STEEL-										
LOW-PHOSPHORUS PLATE AND PUNCHINGS--	72,006	414	11,804	149	77,072	1,198	140,863			
CUT STRUCTURAL AND PLATE--	10,279	--	20,699	242	34,404	2,972	31,546			
NO.1 HEAVY MELTING STEEL--	346,878	222,568	1,263,210	7,484	1,631,616	213,991	2,568,431			
NO.2 HEAVY MELTING STEEL--	125,507	4,408	84,851	213	292,399	970	526,924			
NO.1 AND ELECTRIC FURNACE BUNDLES--	421,924	50,049	204,488	1,055	651,449	2,017	1,616,457			
NO.2 AND ALL OTHER BUNDLES--	145,950	8,424	15,804	--	193,651	5,867	347,878			
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)--	8,016	--	4,452	--	13,593	--	32,045			
RAILROAD RAILS--	1,129	--	--	--	9,286	--	973			
TURNINGS AND BORINGS--	76,819	4,355	25,402	80	101,093	7,573	107,085			
SLAG SCRAP (FE CONTENT 70 PERCENT)--	92,304	3,309	227,179	--	303,825	4,406	315,728			
SHREDDED OR FRAGMENTIZED--	83,190	43,229	399	--	128,506	1,213	161,050			
ALL OTHER CARBON STEEL SCRAP--	218,349	12,754	711,486	109,282	944,817	45,309	1,007,291			
STAINLESS STEEL SCRAP--	23,315	3,233	49,611	2	82,093	5,654	85,398			
ALLOY STEEL (EXCEPT STAINLESS)--	12,106	14,799	116,849	624	125,919	18,301	272,897			
INGOT MOLD AND STUOL SCRAP--	32,289	41,417	62,290	123,932	217,101	42,859	1,038,841			
MACHINERY AND CUPOLA CAST IRON--	--	--	--	--	1,190	--	2,431			
CAST IRON BORINGS--	13,766	5,288	22,030	1,890	36,543	5,127	77,173			
MOTOR BLOCKS--	656	--	21	--	348	21	577			
OTHER IRON SCRAP--	24,532	8,108	68,519	287	97,863	24,543	152,603			
OTHER MIXED SCRAP--	12,396	3,432	18,883	6	22,733	8,584	86,984			
TOTAL SCRAP--	1,721,411	425,787	2,907,977	245,246	4,885,501	390,575	8,573,175			
TOTAL SCRAP THROUGH DECEMBER 1976--	25,735,122	6,043,879	40,850,188	2,645,449	68,359,005	5,779,474	8,573,175			
PIG IRON										
RECEIPTS										
PRODUCTION										
CONSUMPTION										
SHIPMENTS										
STOCKS										
PIG IRON--	459,307		6,270,319		6,079,264	629,545	1,380,998			
PIG IRON THROUGH DECEMBER 1976--	5,522,611		86,644,513		84,102,122	7,980,733	1,380,998			

1/ INCLUDES ONLY THOSE MANUFACTURERS OF STEEL CASTINGS THAT ALSO PRODUCE INGOTS.
2/ BASED ON RETURNS FROM 92% OF REPORTING CONSUMERS, REPRESENTING 98% OF SCRAP CONSUMPTION.

TABLE 3. - MANUFACTURERS OF STEEL CASTINGS 1/ - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, DECEMBER 1976 (PRELIMINARY) 2/ (SHORT TONS)

ITEM	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP			CONSUMPTION OF BOTH PURCHASED AND HOME SCRAP			ENDING STOCKS
	FROM BROKERS, DEALERS AND OTHER SOURCES	FROM OTHER OWN COMPANY PLANTS	FROM SCRAP (INCLUDES INGOT MOLD, STOKES, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	RECYCLING OBSOLETE SCRAP (INCLUDES INGOT MOLD, STOKES, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	FROM SCRAP (INCLUDES INGOT MOLD, STOKES, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	FROM SCRAP (INCLUDES INGOT MOLD, STOKES, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	FROM SCRAP (INCLUDES INGOT MOLD, STOKES, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	FROM SCRAP (INCLUDES INGOT MOLD, STOKES, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	FROM SCRAP (INCLUDES INGOT MOLD, STOKES, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	
SCRAP:										
CARBON STEEL-										
LOW PHOSPHORUS PLATE AND PUNCHINGS	49,362	82	14,341	137	59,761	20	86,644			
CUT STRUCTURAL AND PLATE	15,859	1,647	1,461	--	17,562	60	22,218			
NO.1 HEAVY MELTING STEEL	10,307	257	5,259	--	16,431	--	29,429			
NO.2 HEAVY MELTING STEEL	4,690	--	1,070	--	5,918	--	3,565			
NO.1 AND ELECTRIC FURNACE BUNDLES	3,435	--	--	--	3,311	--	3,995			
NO.2 AND ALL OTHER BUNDLES	108	--	--	--	104	--	611			
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)	4,622	36	928	--	5,295	46	4,895			
RAILROAD RAILS	7	--	--	--	33	--	110			
TURNINGS AND BORINGS	4,519	660	2,136	--	7,471	937	3,961			
SLAG SCRAP (FE CONTENT 70 PERCENT)	315	--	404	--	680	14	136			
SHREDDER OR FRAGMENTIZED	7,751	1,531	--	--	9,837	--	7,001			
ALL OTHER CARBON STEEL SCRAP	40,638	2,712	27,102	860	69,495	364	40,946			
STAINLESS STEEL SCRAP	1,295	367	2,231	--	3,516	298	5,378			
ALLOY STEEL (EXCEPT STAINLESS)	5,703	631	11,852	105	13,502	--	22,031			
INGOT MOLD AND STOKES SCRAP	112	--	54	--	379	48	497			
MACHINERY AND CUPOLA CAST IRON	892	386	932	--	1,561	392	2,389			
CAST IRON BORINGS	3,876	--	4,408	--	8,041	224	3,340			
MOTOR BLOCKS	73	--	--	--	73	--	234			
OTHER IRON SCRAP	3,076	10	5,976	97	8,300	98	21,260			
OTHER MIXED SCRAP	25	--	281	--	334	--	6			
TOTAL SCRAP	156,743	8,319	78,515	1,199	231,654	2,501	258,796			
TOTAL SCRAP THROUGH DECEMBER 1976	1,820,279	104,509	979,741	14,866	2,851,346	40,700	258,796			
PIG IRON	3,692	--	--	--	3,542	2	7,019			
PIG IRON THROUGH DECEMBER 1976	47,036	--	--	--	47,244	114	7,019			

1/ EXCLUDES COMPANIES THAT PRODUCE BOTH STEEL INGOTS AND CASTINGS.

2/ BASED ON RETURNS FROM 74% OF REPORTING CONSUMERS, REPRESENTING 86% OF SCRAP CONSUMPTION.

TABLE 4 - IRON FOUNDRIES AND MISCELLANEOUS USERS - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, DECEMBER 1976 (PRELIMINARY) 1/ (SHORT TONS)

ITEM	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP			CONSUMPTION OF BOTH PUR-			ENDING STOCKS
	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OTHER OWN COMPANY PLANTS	FROM RECYCLATING SCRAP (INCLUDES INGOT MOLD, STUOLS, AND SCRAP FROM CURRENT OLD EQUIPMENT, BUILDINGS, ETC.)	FROM RECYCLATING SCRAP (INCLUDES INGOT MOLD, STUOLS, AND SCRAP FROM CURRENT OLD EQUIPMENT, BUILDINGS, ETC.)	FROM RECYCLATING SCRAP (INCLUDES INGOT MOLD, STUOLS, AND SCRAP FROM CURRENT OLD EQUIPMENT, BUILDINGS, ETC.)	FROM RECYCLATING SCRAP (INCLUDES INGOT MOLD, STUOLS, AND SCRAP FROM CURRENT OLD EQUIPMENT, BUILDINGS, ETC.)	FROM RECYCLATING SCRAP (INCLUDES INGOT MOLD, STUOLS, AND SCRAP FROM CURRENT OLD EQUIPMENT, BUILDINGS, ETC.)	FROM RECYCLATING SCRAP (INCLUDES INGOT MOLD, STUOLS, AND SCRAP FROM CURRENT OLD EQUIPMENT, BUILDINGS, ETC.)	FROM RECYCLATING SCRAP (INCLUDES INGOT MOLD, STUOLS, AND SCRAP FROM CURRENT OLD EQUIPMENT, BUILDINGS, ETC.)	
SCRAP:										
CARBON STEEL-										
LOW PHOSPHORUS PLATE AND PUNCHINGS--	55,091	8,978	6,464	5	71,596	767	67,552			
CUT STRUCTURAL AND PLATE-----	104,225	9,758	11,981	608	132,208	312	95,206			
NO.1 HEAVY MELTING STEEL-----	17,782	13,495	6,240	--	36,117	3,991	60,150			
NO.2 HEAVY MELTING STEEL-----	9,895	421	1,124	49	9,797	55	7,059			
NO.1 AND ELECTRIC FURNACE BUNDLES--	12,640	13,116	3,706	29	29,769	--	10,156			
NO.2 AND ALL OTHER BUNDLES-----	39,150	10,837	437	--	49,625	--	35,298			
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)-----	33,525	6,525	1,302	--	39,494	--	14,399			
RAILROAD RAILS-----	8,236	--	24	--	8,152	26	11,551			
TURNINGS AND BORINGS-----	47,627	9,010	1,298	211	63,747	1,764	102,058			
SLAG SCRAP (FE CONTENT 70 PERCENT)---	2,498	--	49	--	3,398	49	7,892			
SHREDDED OR FRAGMENTIZED-----	65,256	11,977	--	--	73,961	--	41,767			
ALL OTHER CARBON STEEL SCRAP-----	82,745	63,164	11,733	--	165,637	1,395	121,607			
STAINLESS STEEL SCRAP-----	163	--	229	--	346	14	4,208			
ALLOY STEEL (EXCEPT STAINLESS)---	6,010	3	897	89	6,996	364	13,874			
INGOT MOLD AND STUOL SCRAP-----	11,013	--	10,274	508	20,878	445	27,845			
MACHINERY AND CUPOLA CAST IRON ---	64,065	11,709	45,982	871	122,546	1,338	86,532			
CAST IRON BORINGS-----	48,992	40,100	20,459	46	111,248	3,469	96,598			
MOTOR BLOCKS-----	45,672	4,762	34,463	--	89,566	285	56,370			
OTHER IRON SCRAP-----	81,350	6,606	243,360	6,320	329,584	9,497	179,021			
OTHER MIXED SCRAP-----	32,535	68,195	21,421	282	125,484	352	42,909			
TOTAL SCRAP-----	768,890	278,656	421,443	9,018	1,490,149	24,123	1,082,052			
TOTAL SCRAP THROUGH DECEMBER 1976---	9,878,583	3,717,255	5,507,177	37,724	18,703,650	335,397	1,082,052			
PIG IRON-----										
	192,717	--	--	--	187,318	1,028	128,828			
PIG IRON THROUGH DECEMBER 1976-----										
	2,761,270	--	--	--	2,779,499	9,652	128,828			
1/ BASED ON RETURNS FROM 71% OF REPORTING CONSUMERS, REPRESENTING 73% OF SCRAP CONSUMPTION.										

TABLE 5. - CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN THE UNITED STATES
IN DECEMBER 1976 (PRELIMINARY), BY TYPE OF CONSUMER AND TYPE OF FURNACE OR OTHER USE
(SHORT TONS)

TYPE OF FURNACE OR OTHER USE	MANUFACTURERS OF PIG IRON AND STEEL INGOTS AND CASTINGS 1/				MANUFACTURERS OF STEEL CASTINGS 2/				IRON FOUNDRIES AND MISCELLANEOUS USERS				TOTAL ALL TYPES			
	SCRAP		PIG IRON		SCRAP		PIG IRON		SCRAP		PIG IRON		SCRAP		PIG IRON	
BLAST FURNACE 3/	271,198		4,954,371	--	--	--	--	--	--	--	--	--	271,198		4,954,371	--
BASIC OXYGEN PROCESS 4/	1,953,532		917,989	--	--	--	--	--	--	--	--	--	1,953,532		917,989	--
OPEN-HEARTH FURNACE	748,128		36,486	6,623	213,991	2,831	445	--	--	--	--	--	754,751		36,486	6,623
ELECTRIC FURNACE	1,816,836		21,161	9,244	9,244	20	20	416,964	18,060	--	--	--	2,447,791		21,161	9,244
CUPOLA FURNACE	34,212		18,954	1,796	1,796	266	--	1,017,652	75,815	--	--	--	1,061,108		18,954	1,796
OTHER (INCLUDING AIR FURNACE) 5/	61,595		130,303	--	--	--	--	55,533	2,731	--	--	--	118,924		130,303	--
DIRECT CASTINGS 6/	--		--	--	--	--	--	--	90,712	--	--	--	--		--	--
TOTAL	4,885,501		6,079,264	231,654	3,842	1,490,149	187,318	6,607,304	6,270,124							

1/ INCLUDES ONLY THOSE CASTINGS MADE BY COMPANIES PRODUCING STEEL INGOTS.

2/ EXCLUDES COMPANIES THAT PRODUCE BOTH STEEL INGOTS AND STEEL CASTINGS.

3/ INCLUDES CONSUMPTION IN ALL BLAST FURNACES PRODUCING PIG IRON.

4/ INCLUDES SCRAP AND PIG IRON PROCESSED IN METALLURGICAL BLAST CUPOLAS AND USED IN OXYGEN CONVERTERS.

5/ INCLUDES VACUUM MELTING FURNACES AND MISCELLANEOUS USES.

6/ INCLUDES INGOT MOLDS AND STOKES.

TABLE 6. - MANUFACTURERS OF PIG IRON AND STEEL INGOTS AND CASTINGS 1/ - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, NOVEMBER 1976 (FINAL) 2/ (SHORT TONS)

ITEM	RECEIPTS OF SCRAP		PRODUCTION OF HOME SCRAP		CONSUMPTION OF BOTH PUR-		ENDING STOCKS
	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OTHER OWN COMPANY PLANTS	RECYCLATING SCRAP (INCLUDES INGOT MOLDS, STOOLS, AND SCRAP FROM CURRENT OPERATIONS BUILDINGS, ETC.)	OBSELETE SCRAP (INCLUDES INGOT MOLDS, STOOLS, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING SCRAP)	CHASED AND HOME SCRAP (INCLUDES RE- SHIPMENTS OF SCRAP)		
SCRAP:							
CARBON STEEL-							
LOW-PHOSPHORUS PLATE AND PUNCHINGS---	61,405	1,430	12,109	109	89,516	1,139	134,666
CUT STRUCTURAL AND PLATE-----	20,484	--	14,489	294	37,917	3,005	32,603
NO.1 HEAVY MELTING STEEL-----	340,500	229,856	1,322,656	7,563	1,707,004	253,214	2,551,702
NO.2 HEAVY MELTING STEEL-----	142,298	10,363	99,108	108	257,101	9,024	562,103
NO.1 AND ELECTRIC FURNACE BUNDLES---	500,514	49,641	215,934	252	711,834	1,403	1,582,510
NO.2 AND ALL OTHER BUNDLES-----	132,187	27,559	9,737	--	176,293	10,604	374,066
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)-----	10,576	--	4,496	--	9,729	--	32,635
RAILROAD RAILS-----	8,266	--	--	--	5,547	--	9,444
TURNINGS AND BORINGS-----	72,547	4,781	26,780	84	99,905	4,797	108,028
SLAG SCRAP (FE CONTENT 70 PERCENT)---	96,552	7,932	236,254	--	307,695	5,487	302,010
SHREDDED OR FRAGMENTIZED-----	91,319	41,934	--	--	144,142	1,213	168,174
ALL OTHER CARBON STEEL SCRAP-----	195,738	15,055	711,803	116,203	960,091	70,274	957,400
STAINLESS STEEL SCRAP-----	25,725	3,204	49,114	12	87,951	2,917	97,335
ALLOY STEEL (EXCEPT STAINLESS)---	11,351	17,297	121,896	448	133,934	7,505	282,467
INGOT MOLD AND STOOL SCRAP-----	38,601	52,624	68,156	146,370	231,401	45,766	1,041,890
MACHINERY AND CUPOLA CAST IRON---	293	--	--	--	1,171	--	5,069
CAST IRON BORINGS-----	14,290	9,605	22,902	4,077	40,413	4,406	76,472
MOTOR BLOCKS-----	628	--	--	--	352	--	537
OTHER IRON SCRAP-----	27,992	10,335	52,899	2,280	56,594	28,804	135,279
OTHER MIXED SCRAP-----	15,677	4,976	14,379	8	27,434	8,266	83,398
TOTAL SCRAP-----	1,806,943	486,592	2,982,712	277,804	5,086,024	457,824	8,537,788
TOTAL SCRAP THROUGH NOVEMBER 1976---	24,013,711	5,818,092	37,942,211	2,400,203	63,473,504	5,388,899	8,537,788
PIG IRON-----	458,409		6,384,352		6,205,665	626,299	1,361,166
PIG IRON THROUGH NOVEMBER 1976-----	5,063,304		80,374,194		78,022,858	7,351,188	1,361,166

1/ INCLUDES ONLY THOSE MANUFACTURERS OF STEEL CASTINGS THAT ALSO PRODUCE INGOTS.

2/ BASED ON RETURNS FROM 94% OF REPORTING CONSUMERS, REPRESENTING 99% OF SCRAP CONSUMPTION.

TABLE 7. -- MANUFACTURERS OF STEEL CASTINGS 1/ -- RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, NOVEMBER 1976 (FINAL) 2/ (SHORT TONS)

ITEM	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP			CONSUMPTION OF BOTH PURCHASED AND RECYCLATING OBSOLETE SCRAP (INCLUDES INGOT CHASED AND MOLD, STAPLS, HOME SCRAP AND SCRAP FROM (INCLUDES RE-OLD EQUIPMENT, CIRCULATING OF SCRAP)			ENDING STOCKS
	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OTHER OWN COMPANY PLANTS	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOT CHASED AND MOLD, STAPLS, HOME SCRAP AND SCRAP FROM (INCLUDES RE-OLD EQUIPMENT, CIRCULATING OF SCRAP)	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OTHER OWN COMPANY PLANTS	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOT CHASED AND MOLD, STAPLS, HOME SCRAP AND SCRAP FROM (INCLUDES RE-OLD EQUIPMENT, CIRCULATING OF SCRAP)	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OTHER OWN COMPANY PLANTS	FROM RECYCLATING OBSOLETE SCRAP (INCLUDES INGOT CHASED AND MOLD, STAPLS, HOME SCRAP AND SCRAP FROM (INCLUDES RE-OLD EQUIPMENT, CIRCULATING OF SCRAP)	
SCRAP:										
CARBON STEEL--										
LOW-PHOSPHORUS PLATE AND PUNCHINGS--	49,883	492	19,073	122	61,351	6	82,837			
CUT STRUCTURAL AND PLATE--	16,072	1,561	1,432	--	18,483	60	20,997			
NO.1 HEAVY MELTING STEEL--	8,509	283	5,525	--	17,801	--	20,999			
NO.2 HEAVY MELTING STEEL--	3,772	--	1,201	--	4,320	--	3,723			
NO.1 AND ELECTRIC FURNACE BUNDLES--	3,901	--	--	--	4,004	--	3,723			
NO.2 AND ALL OTHER BUNDLES--	241	--	--	--	127	--	518			
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)--	5,099	36	1921	--	5,696	70	4,870			
RAILROAD RAILS--	23	--	--	--	14	--	36			
TURNINGS AND BORINGS--	3,439	594	2,142	--	6,256	748	4,778			
SLAG SCRAP (FE CONTENT 70 PERCENT)--	362	--	464	--	820	40	31			
SHREDDED OR FRAGMENTIZED--	6,767	1,336	--	--	8,220	--	7,984			
ALL OTHER CARBON STEEL SCRAP--	37,596	2,333	27,027	614	66,670	325	38,458			
STAINLESS STEEL SCRAP--										
ALLOY STEEL (EXCEPT STAINLESS)--	1,580	321	1,861	--	3,567	246	5,480			
INGOT MOLD AND STAPL SCRAP--	4,398	787	12,101	--	13,069	--	20,630			
MACHINERY AND CUPOLA CAST IRON--	454	--	12	--	490	--	738			
CAST IRON BORINGS--	964	386	926	--	1,566	392	2,408			
MOTOR BLOCKS--	4,144	--	5,754	--	9,961	--	3,331			
OTHER IRON SCRAP--	115	--	--	--	70	--	234			
OTHER MIXED SCRAP--	2,588	10	6,154	3	8,311	278	20,931			
	67	--	397	--	328	--	59			
TOTAL SCRAP--	149,974	8,089	80,890	739	231,264	2,185	250,669			
TOTAL SCRAP THROUGH NOVEMBER 1976--	1,663,534	96,190	901,236	13,667	2,619,692	38,199	250,669			
PIG IRON--										
	4,214	--	--	--	3,674	2	7,230			
PIG IRON THROUGH NOVEMBER 1976--	43,344	--	--	--	43,702	112	7,230			

1/ EXCLUDES COMPANIES THAT PRODUCE BOTH STEEL INGOTS AND CASTINGS.
2/ BASED ON RETURNS FROM 85% OF REPORTING CONSUMERS, REPRESENTING 92% OF SCRAP CONSUMPTION.

TABLE 8. -- IRON FOUNDRIES AND MISCELLANEOUS USERS -- RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, NOVEMBER 1976 (FINAL) 1/
(SHORT TONS)

ITEM	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP			CONSUMPTION			ENDING STOCKS
	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OTHER OWN COMPANY PLANTS	FROM SCRAP (INCLUDES INGOT MOLDS, STOKES, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING BUILDINGS, ETC.)	RECYCLATING SCRAP (INCLUDES INGOT MOLDS, STOKES, AND SCRAP FROM OLD EQUIPMENT, CIRCULATING BUILDINGS, ETC.)	FROM CURRENT OPERATIONS	FROM PURCHASED AND HOME SCRAP	OF BOTH PURCHASED AND HOME SCRAP	SHIPMENTS		
SCRAP:										
CARBON STEEL--										
LOW-PHOSPHORUS PLATE AND PUNCHINGS----	60,782	11,621	7,346	11	74,930	404	68,798			
CUT STRUCTURAL AND PLATE-----	112,465	8,482	8,839	281	132,872	436	98,704			
NO.1 HEAVY MELTING STEEL-----	15,437	11,265	3,935	2	31,871	7,635	62,638			
NO.2 HEAVY MELTING STEEL-----	3,717	386	1,112	13	10,217	21	5,996			
NO.1 AND ELECTRIC FURNACE BUNDLES----	12,664	21,202	3,392	49	35,606	--	12,429			
NO.2 AND ALL OTHER BUNDLES-----	45,596	11,630	584	--	55,987	--	32,969			
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)-----	35,002	7,727	1,166	--	42,804	--	12,517			
RAILROAD RAILS-----	10,226	--	24	--	9,782	24	11,188			
TURNINGS AND BORINGS-----	59,937	11,930	1,213	207	61,280	4,037	110,086			
SLAG SCRAP (FE CONTENT 70 PERCENT)----	3,449	--	40	--	3,880	40	8,066			
SHREDDED OR FRAGMENTIZED-----	67,002	10,590	100	--	74,679	--	36,277			
ALL OTHER CARBON STEEL SCRAP-----	89,138	63,501	10,387	--	162,662	4,340	126,393			
STAINLESS STEEL SCRAP-----	183	--	497	2	550	--	4,246			
ALLOY STEEL (EXCEPT STAINLESS)-----	6,005	2	590	87	7,146	122	14,266			
INGOT MOLD AND STUOL SCRAP-----	17,620	--	2,302	387	21,933	419	27,200			
MACHINERY AND CUPOLA CAST IRON -----	62,556	12,414	54,437	190	129,968	1,968	87,691			
CAST IRON BORINGS-----	59,323	46,996	21,411	30	114,698	3,611	99,980			
MOTOR BLOCKS-----	48,232	4,149	42,388	--	101,508	--	58,525			
OTHER IRON SCRAP-----	85,945	6,768	260,006	498	351,656	8,305	181,230			
OTHER MIXED SCRAP-----	36,646	68,896	20,851	1,449	131,307	209	42,626			
TOTAL SCRAP-----	831,925	297,559	440,620	3,206	1,555,336	31,571	1,101,225			
TOTAL SCRAP THROUGH NOVEMBER 1976----	9,109,693	3,438,599	5,085,734	28,706	17,213,501	311,274	1,101,225			
PIG IRON-----										
RECEIPTS				PRODUCTION			CONSUMPTION			STOCKS
186,619				--			192,459			
PIG IRON THROUGH NOVEMBER 1976-----										
2,568,553				--			2,592,181			123,105
1/ BASED ON RETURNS FROM 81% OF REPORTING CONSUMERS, REPRESENTING 92% OF SCRAP CONSUMPTION.										

TABLE 9. - CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN THE UNITED STATES
IN NOVEMBER 1976 (FINAL), BY TYPE OF CONSUMER AND TYPE OF FURNACE OR OTHER USE
(SHORT TONS)

TYPE OF FURNACE OR OTHER USE	MANUFACTURERS OF PIG IRON AND STEEL INGOTS AND CASTINGS 1/		MANUFACTURERS OF STEEL CASTINGS 2/		IRON FOUNDRIES AND MISCELLANEOUS USERS		TOTAL ALL TYPES	
	SCRAP	PIG IRON	SCRAP	PIG IRON	SCRAP	PIG IRON	SCRAP	PIG IRON
BLAST FURNACE 3/	293,820	--	--	--	--	--	293,820	--
BASIC OXYGEN PROCESS 4/	1,975,941	5,027,563	--	--	--	--	1,975,941	5,027,563
OPEN-HEARTH FURNACE	767,594	936,859	470	--	--	--	774,890	937,329
ELECTRIC FURNACE	1,952,951	47,849	209,935	2,931	--	--	2,575,648	69,009
CUPOLA FURNACE	30,418	17,872	12,319	.46	412,762	18,229	1,126,008	97,915
OTHER (INCLUDING AIR FURNACE) 5/	65,300	18,438	1,714	227	1,083,271	79,997	126,317	21,817
DIRECT CASTINGS 6/	--	157,084	--	--	59,303	91,081	--	248,165
TOTAL	5,086,024	6,205,665	231,264	3,674	1,555,336	192,459	6,872,624	6,401,798

10

- 1/ INCLUDES ONLY THOSE CASTINGS MADE BY COMPANIES PRODUCING STEEL INGOTS.
2/ EXCLUDES COMPANIES THAT PRODUCE BOTH STEEL INGOTS AND STEEL CASTINGS.
3/ INCLUDES CONSUMPTION IN ALL BLAST FURNACES PRODUCING PIG IRON.
4/ INCLUDES SCRAP AND PIG IRON PROCESSED IN METALLURGICAL BLAST CUPOLAS AND USED IN OXYGEN CONVERTERS.
5/ INCLUDES VACUUM MELTING FURNACES AND MISCELLANEOUS USES.
6/ INCLUDES INGOT MOLDS AND STOKES.

FOREIGN TRADE

Exports of iron and steel scrap totaled 631,497 short tons in December compared with 536,664 tons in November. Exports of pig iron during December totaled 6,346 tons and 5,725 tons in November. Imports of scrap totaled 33,730 short tons in December compared with 49,717 tons in November. Of the scrap imported during December, 32,036 short tons came from Canada and 1,694 tons from other sources. Imports of pig iron totaled 64,219 short tons in December and 22,660 tons in November. In addition to the foregoing imports of pig iron during December, there were 12 tons of sponge iron, valued at \$3,663 imported, all of which came from Canada.

Table 10. - U.S. exports of iron and steel scrap,^{1/} by country

Country	December 1976		Year to date	
	Short tons	Value	Short tons	Value
Argentina-----	39,125	\$2,637,370	79,123	\$5,884,669
Canada-----	53,202	2,378,342	889,097	48,140,678
China, People's Rep. of---	--	--	51,413	4,192,618
Greece-----	2,051	185,315	221,329	17,253,868
Italy-----	6,856	1,101,122	723,686	64,731,367
Japan-----	198,577	13,353,444	1,257,144	93,114,713
Korea, Republic of-----	76,374	4,075,296	911,853	61,560,721
Mexico-----	48,883	3,252,819	571,543	44,540,914
Spain-----	94,845	8,510,152	1,861,170	136,092,653
Sweden-----	164	286,761	54,138	6,818,330
Taiwan-----	45,887	3,305,758	249,678	22,062,261
United Kingdom-----	22,340	2,204,895	514,630	46,296,426
Other countries-----	43,193	4,065,303	494,263	51,135,684
Total-----	631,497	45,356,577	7,879,067	601,824,902

^{1/} Excludes ships, boats, and other vessels for breaking up (for scrapping) which was included in 1965-1970 figures.

Table 11. - U.S. exports of iron and steel scrap, by grade

Grade of scrap	December 1976		Year to date	
	Short tons	Value	Short tons	Value
No. 1 heavy melting steel scrap-----	241,488	\$15,061,777	2,063,475	\$150,327,082
No. 2 heavy melting steel scrap-----	87,581	4,820,913	705,440	46,046,750
No. 1 bundles-----	3,570	231,183	95,215	7,726,041
No. 2 bundles-----	48,863	2,734,079	845,335	48,143,610
Borings, shovelings and turnings-----	29,681	1,044,720	644,033	32,338,507
Stainless steel-----	12,581	6,560,670	112,131	52,515,847
Shredded steel scrap-----	138,678	9,261,326	2,179,056	164,921,665
Iron scrap (excluding borings and shovelings)--	21,756	1,386,055	474,414	33,996,417
All other steel scrap ^{1/} -----	47,299	4,255,854	759,968	65,808,983
Total-----	631,497	45,356,577	7,879,067	601,824,902
Ships, boats, and other vessels for breaking up (for scrapping)-----	11	1,600	49,679	2,280,019
Total-----	631,508	45,358,177	7,928,746	604,104,921

^{1/} Includes tinplate and terneplate.