



MINERAL INDUSTRY SURVEYS

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DOUGLAS McKAY, Secretary

J. J. FORBES, Director

Iron and Steel Scrap
Monthly Report No. 170

IRON AND STEEL SCRAP IN DECEMBER 1954

Consumption of ferrous materials (scrap and pig iron) during December totaled 10,053,763 gross tons, an increase of 4 percent over November, and was the highest of any month during 1953, according to the Bureau of Mines, United States Department of the Interior. Scrap consumed for all purposes totaled 5,075,563 tons, an increase of 3 percent over November; pig iron consumption totaled 4,978,200 tons, an increase of 5 percent. The daily consumption rate of ferrous materials in December was 324,315 gross tons, slightly higher than in the previous month; the total melt, increased for the fifth consecutive month, and consisted of 50 percent scrap and 50 percent pig iron, compared with 51 and 49 percent, respectively, during November.

Preliminary totals for the consumption of ferrous materials (scrap and pig iron) during 1954 are: scrap 54,781,000 gross tons, and pig iron 52,374,000 tons, a total melt of 107,155,000 tons, representing a decrease of 21 percent from the record year 1953.

Continued high steel production during December, 2 percent greater than November, reflected increased consumption of ferrous materials (scrap and pig iron) in steel-making furnaces. Scrap and pig iron so used increased 2 percent and 4 percent, respectively, over November. The total melt (8,163,383 gross tons) in steel-making furnaces, 3 percent greater than the previous month, consisted of 46 percent scrap and 54 percent pig iron. Electric furnaces used 566,223 tons of scrap during December, a decrease of 1 percent from November.

Table 1 - Summary of production, receipts, consumption and consumers' stocks of iron and steel scrap and pig iron, July 1954 to December 1954, in gross tons

Date	Scrap for Consumption			Consumption		Consumers' Stocks at end of month	
	Home Scrap Produced	Purchased Scrap Received (Net)	Total	Scrap	Pig iron	Scrap	Pig iron ^{1/}
July 1954--	2,351,004	1,717,506	4,068,510	3,909,336	3,990,431	5,798,311	2,465,967
Aug. 1954--	2,411,599	1,846,944	4,258,543	4,164,703	4,013,552	5,891,822	2,538,723
Sept. 1954--	2,426,328	1,795,827	4,222,155	4,298,495	4,005,578	5,812,356	2,448,914
Oct. 1954--	2,623,832	2,163,398	4,787,230	4,782,488	4,518,770	5,811,262	2,357,134
Nov. 1954--	2,737,402	2,500,293	5,237,695	4,928,850	4,764,215	6,117,512	2,261,366
Dec. 1954--	2,937,073	2,585,292	5,522,365	5,075,563	4,978,200	6,561,514	2,264,482

^{1/} Suppliers' stocks included with consumers' stocks.

^{2/} Excludes 206,888 gross tons of scrap shipped, transferred or otherwise disposed of during month.

Prepared by James E. Larkin and James C.O. Harris, March 2, 1955, under the supervision of Norwood B. Melcher, Chief, Branch of Ferrous Metals and Ferroalloys, Division of Minerals.

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*Ferrous Scrap
Pig Iron*

Stocks of ferrous materials (scrap and pig iron) held by consumers at the end of December totaled 8,825,996 tons, an increase of 5 percent over the previous month. Stocks of scrap at the end of December totaled 6,561,514 tons, an increase of 7 percent over November and 3 percent greater than stocks held by consumers on January 1; pig iron stocks totaled 2,264,482 tons, a slight increase over the previous month, but 9 percent less than a year ago.

The use of scrap and pig iron by gray iron foundries during December totaled 798,435 gross tons and 403,726 tons, respectively, each 8 percent above the previous month.

Total scrap for consumption (home scrap produced plus purchased scrap received) totaled 5,522,365 gross tons during December, compared with 5,237,695 gross tons in November; home scrap accounted for 2,937,073 tons and purchases 2,585,292 tons. Of the purchases 88 percent was received from dealers and 12 percent from other sources. Receipts of purchased scrap is a net figure, computed by deducting consumers scrap shipped, transferred or otherwise disposed of during the month from total scrap received from dealers and all others.

Table 2 - Scrap produced and received during December, and stocks at consumers' plants December 31, 1954, in gross tons

	Home Scrap Produced	Scrap received		Scrap stocks December 31
		From Dealers	From Others	
No. 1 heavy melting steel-----	1,174,294	476,912	39,355	1,687,889
No. 2 heavy melting steel-----	144,506	366,442	25,846	824,965
Bundles-----	90,540	617,586	72,677	1,053,911
Low phosphorous scrap-----	97,025	197,933	26,130	438,020
Cast iron scrap, other than borings	492,624	297,676	39,971	870,534
Turnings and/or borings, alloy free	38,846	236,648	39,103	282,446
Rerolling rails-----	955	35,626	31,866	186,794
Scrap rails-----	3,533	26,524	2,511	80,145
High speed steel-----	2,057	713	508	7,140
Stainless steel-----	31,809	13,987	3,303	65,639
All other alloy iron and steel-----	121,111	14,815	11,327	246,870
All other prepared scrap-----	464,023	118,070	28,738	486,812
Unprepared scrap-----	275,750	54,355	13,558	330,349
Total scrap-----	2,937,073	2,457,287*	334,893*	6,561,514

* Includes 206,888 gross tons of scrap shipped, transferred or otherwise disposed of during month.

Stocks of iron and steel scrap at the end of December totaled 6,561,514 tons, compared with 6,117,512 tons on November 30, and were equivalent to a 40-day supply at the December consumption rate.

Table 3 - Stocks of iron and steel scrap and pig iron on hand at major consuming industries plants,
at end of month, in gross tons

Date	Scrap Stocks				Pig Iron Stocks		
	Mfgs. of Steel Ingots and Castings	Mfgs. of Steel Castings	Iron Foundries and Miscel- laneous Users	Total	Mfgs. of Steel Ingots and Castings	Mfgs. of Steel Castings	Iron Foundries and Miscel- laneous Users
July 31 1954-	4,618,123	342,766	837,422	5,798,311	1,880,081	48,913	536,973
Aug. 31 1954-	4,726,110	333,616	832,096	5,891,822	1,977,538	46,333	511,852
Sept. 30 1954-	4,643,292	332,806	836,258	5,812,356	1,910,580	43,579	494,755
Oct. 31 1954-	4,638,245	337,822	835,195	5,811,262	1,826,245	45,624	485,265
Nov. 30 1954-	4,893,991	349,159	874,362	6,117,512	1,726,796	46,058	488,512
Dec. 31 1954-	5,301,226	350,902	909,386	6,561,514	1,755,294	44,420	464,768
							2,465,967
							2,538,723
							2,448,914
							2,357,134
							2,261,366
							2,264,482

Table 4 - Consumption of iron and steel scrap in the United States during
November and December, by grades, in gross tons

	November	December	Year to date
No. 1 heavy melting steel-----	1,490,066	1,542,565	16,958,271
No. 2 heavy melting steel-----	486,191	480,650	5,305,752
Bundles-----	671,784	675,753	6,500,816
Low phosphorous scrap-----	281,923	287,004	3,199,954
Cast iron scrap other than borings-----	729,108	768,621	8,469,018
Turnings and/or borings, alloy free-----	256,914	263,928	2,611,201
Rerolling rails-----	44,493	44,528	534,583
Scrap rails-----	25,533	30,721	332,600
High speed steel-----	2,248	2,084	24,151
Stainless steel-----	48,655	45,862	485,992
All other alloy iron and steel-----	121,814	129,728	1,396,306
All other prepared scrap-----	582,898	615,928	6,965,277
Unprepared scrap-----	187,223	188,191	1,996,837
Total (all grades)-----	4,928,850	5,075,563	54,780,758

DEALERS AND BROKERS

Companies reporting during December, indicated that by the end of the month, stocks had decreased 1 percent from November. During December, dealers and automobile wreckers received virtually the same quantity of scrap in their yards as during November, while shipments decreased 7 percent. Receipts in December, however, were 4 percent less than shipments. Of the scrap handled by dealers during December, five grades (No. 1 and No. 2 heavy melting steel, bundles, low phosphorous, and cast iron scrap, other than borings), represented 49 percent of the receipts, 75 percent of the shipments and 30 percent of the stocks at the end of the month. Unprepared scrap received in dealers and automobile wreckers yards and stocks held in their yards constituted 36 and 58 percent, respectively, of total receipts and stocks.

Table 5 - Dealers and automobile wreckers, receipts, shipments and stocks of iron and steel scrap as percentage of previous month

	Receipts during December 1954	Shipments during December 1954	Stocks Dec. 31, 1954
No. 1 heavy melting steel-----	102	87	101
No. 2 heavy melting steel-----	98	92	102
Bundles-----	102	101	90
Low phosphorous scrap-----	80	70	97
Cast iron scrap other than borings-----	109	95	109
Turnings and/or borings, alloy free-----	111	100	90
Rerolling rails-----	192	48	513
Scrap rails-----	72	94	96
High speed steel-----	725	788	127
Stainless steel-----	111	124	90
All other alloy iron and steel-----	259	246	107
All other prepared scrap-----	96	92	100
Unprepared scrap-----	98	99	99
Total (all grades)-----	100	93	99

CONSUMPTION OF SCRAP IRON AND STEEL AND PIG IRON

Consumption of scrap in December totaled 5,075,563 gross tons which was at an average daily rate of 163,728 tons or 13 percent less than for the year 1953.

In December, open-hearth furnaces used 63 percent of the total scrap, and 83 percent of the pig iron compared with 64, and 83 percent, respectively, in November; electric furnaces in December used 6 percent of the ferrous materials (scrap and pig iron) charged to all furnaces, with open-hearth using 73 percent. During 1953, these percentages were 6 and 73, respectively. Blast furnaces used 6 percent of the total scrap; the corresponding percentage for the year 1953 was 6.

During December, steel-making furnaces (open-hearth, Bessemer and electric) accounted for 75 percent of the total scrap, and 88 percent of the pig iron consumed, compared with 76 and 83, respectively, during November. In 1953, steel-making furnaces used 77 percent of the total scrap, and 88 percent of the pig iron. The remainder was used in iron-making furnaces, principally the cupola. Consumption by type of furnace during December is shown in the following table:

Table 6 - Consumption of iron and steel scrap and pig iron by manufacturers of ingots, steel castings and iron foundries during December 1954, by type of furnace, in gross tons

Type of furnace or equipment	Steel Ingots and castings 1/		Steel Castings 2/		Iron Foundries and Miscellaneous Users		Total	
	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron
Open-hearth	3,164,413	4,121,977	42,241	6,947	-	-	3,206,654	4,128,924
Bessemer	16,874	228,621	1,536	52	562	20	18,972	228,693
Electric	465,253	11,419	90,247	1,489	10,723	1,009	566,223	13,917
Total steel-making furnaces	3,646,540	4,362,017	134,024	8,488	11,285	1,029	3,791,849	4,371,534
Cupola	58,720	55,538	41,213	12,612	698,502	335,576	798,435	403,726
Blast 3/	310,685	-	-	-	-	-	310,685	-
Direct castings	-	107,382	-	-	-	75,729	-	183,111
Air	2,436	851	27,606	5,718	62,868	13,260	92,910	19,829
Ferro-alloy	-	-	-	-	18,972	-	18,972	-
Miscellaneous	20,935	-	-	-	41,777	-	62,712	-
Total December 1954	4,039,316	4,525,788	202,843	26,818	833,404	425,594	5,075,563	4,978,200
Total November 1954	3,983,236	4,346,778	171,916	22,804	773,698	394,633	4,928,350	4,764,215
Total October 1954	3,848,989	4,103,939	175,121	26,133	758,378	388,698	4,782,488	4,518,770
Total September 1954	3,403,651	3,620,936	176,633	26,185	718,211	358,457	4,298,495	4,005,578
Total August 1954	3,277,656	3,626,462	179,188	26,531	707,859	360,559	4,164,703	4,013,552
Total July 1954	3,178,491	3,674,777	135,410	23,607	595,435	292,047	3,909,336	3,990,431

1/ Includes only those castings made by companies producing steel ingots.

2/ Excludes companies that produce both steel castings and steel ingots.

3/ Includes consumption in blast furnaces by both integrated and non-integrated mills.

Consumption of iron and steel scrap and pig iron by manufacturers of ingots, steel castings and iron foundries during 1953, and preliminary data for 1954, by type of furnace, in gross tons

	Steel Ingots and Castings 1/		Steel Castings 2/		Iron Foundries and Miscellaneous Users		Total	
	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron
Open-hearth	43,438,130	54,557,347	908,543	180,658	-	-	44,346,673	54,738,005
Bessemer	218,175	3,882,210	24,648	2,324	3,624	392	246,447	3,884,926
Electric	6,581,023	122,170	1,398,133	24,533	196,505	15,443	8,175,661	162,146
Total steel-making furnaces	50,237,328	58,561,727	2,331,324	207,515	200,129	15,835	52,768,781	58,785,077
Cupola	593,319	580,048	597,408	158,833	8,304,066	4,216,049	9,494,793	4,954,930
Blast 3/	4,418,073	-	-	-	-	-	4,418,073	-
Direct Castings	-	1,552,554	-	-	-	1,131,269	-	2,683,823
Air	34,939	14,233	272,871	67,144	760,982	198,136	1,068,792	279,513
Ferro-alloy	-	-	-	-	333,189	-	333,189	-
Miscellaneous	241,204	-	-	-	541,688	-	782,892	-
Total 1953	55,524,863	60,708,562	3,201,603	433,492	10,140,054	5,561,289	68,866,520	66,703,343
Open-hearth	34,345,024	43,342,711	501,564	78,951	-	-	34,846,588	43,421,662
Bessemer	162,818	2,542,461	15,446	852	3,954	161	182,188	2,543,474
Electric	4,907,945	118,815	1,044,688	18,211	147,811	18,232	6,100,444	155,258
Total steel-making furnaces	39,415,787	46,003,987	1,561,688	98,014	151,765	18,393	41,129,220	46,120,394
Cupola	626,911	577,781	494,512	151,863	7,421,158	3,634,774	8,542,581	4,364,418
Blast 3/	3,234,343	-	-	-	-	-	3,234,343	-
Direct castings	-	1,006,086	-	-	-	667,485	-	1,673,571
Air	27,327	10,759	215,208	50,582	612,672	153,817	855,207	215,158
Ferro-alloy	-	-	-	-	272,863	-	272,863	-
Miscellaneous	247,710	-	-	-	498,834	-	746,544	-
Total 1954	43,552,078	47,598,613	2,271,388	300,459	8,957,292	4,474,469	54,780,758	52,373,541

1/ Includes only those castings made by companies producing steel ingots.

2/ Excludes companies that produce both steel castings and steel ingots.

3/ Includes consumption in blast furnaces by both integrated and non-integrated mills.

Table 7 - Consumers' production, receipts, consumption and stocks of ferrous scrap, and consumption of pig iron in the United States, by State and Region, in gross tons

State and Region	Scrap			Scrap Stocks Dec. 31, 1954	Pig Iron Consumed
	Home Scrap Produced	Purchased Scrap Received	Consumed		
United States, total-----	2,937,073	2,792,180 ^{1/}	5,075,563	6,561,514	4,978,200
Undistributed-----	93	4,016	4,573	28,586	-
New England, total-----	27,268	48,634	65,518	89,166	21,233
Connecticut-----	7,208	13,785	17,144	17,053	3,658
Maine-----	343	637	692	1,407	293
Massachusetts-----	15,272	25,899	37,654	58,815	12,788
New Hampshire-----	577	633	1,265	1,065	228
Rhode Island-----	3,114	6,735	6,649	7,989	3,631
Vermont-----	754	945	2,114	2,837	635
Middle Atlantic, total-----	832,336	691,376	1,362,821	1,863,745	1,469,563
New Jersey-----	14,121	42,768	51,064	67,674	16,163
New York-----	157,519	206,996	289,705	475,712	281,701
Pennsylvania (East)-----	160,958	164,604	293,528	545,191	235,346
Pennsylvania (West)-----	499,738	277,008	728,524	775,168	936,353
East North Central, total-----	1,468,386	1,277,952	2,456,655	2,945,872	2,355,314
Illinois-----	257,839	296,247	477,045	816,442	364,314
Indiana-----	387,822	254,126	589,575	632,516	674,668
Michigan-----	237,451	242,683	449,857	364,089	315,022
Ohio (East)-----	470,739	366,886	745,109	881,351	859,625
Ohio (West)-----	81,713	86,123	136,303	188,451	125,292
Wisconsin-----	32,822	31,887	58,766	63,023	16,393
West North Central, total-----	50,954	132,073	139,902	320,519	51,796
Iowa-----	12,616	18,641	28,771	28,835	6,471
Kansas and Nebraska-----	1,639	4,392	5,877	10,832	498
Minnesota-----	22,457	47,669	47,381	123,025	42,623
Missouri-----	14,242	61,371	57,873	157,827	2,204
South Atlantic, total-----	214,095	181,678	355,399	324,200	463,457
Delaware, District of Columbia and Maryland-----	147,307	83,005	218,255	152,980	316,257
Florida and Georgia-----	6,613	15,451	14,773	14,600	1,502
North Carolina-----	2,796	2,370	4,375	6,102	1,206
South Carolina-----	857	709	1,897	1,732	1,002
Virginia and West Virginia-----	56,522	80,143	116,099	148,786	143,490
East South Central, total-----	146,798	150,385	247,959	267,065	326,969
Alabama-----	99,864	95,379	156,283	142,659	252,566
Kentucky, Mississippi, and Tennessee-----	46,934	55,006	91,676	124,406	74,403
West South Central, total-----	45,395	92,207	126,327	186,794	52,960
Arkansas, Louisiana, and Oklahoma-----	2,704	8,625	13,194	16,056	761
Texas-----	42,691	83,582	113,133	170,738	52,199
Rocky Mountain, total-----	78,146	49,993	114,039	159,165	168,036
Arizona and Nevada-----	462	4,795	4,280	20,946	2
Colorado and Utah-----	77,307	43,010	107,704	130,304	168,008
Idaho-----	59	974	615	2,268	12
Montana-----	318	1,214	1,440	5,647	14
Pacific Coast, total-----	73,602	163,866	202,370	376,402	68,872
California-----	66,801	131,163	171,467	279,950	68,445
Oregon-----	2,441	12,841	14,749	26,644	221
Washington-----	4,360	19,862	16,154	69,808	206

^{1/} Includes 206,888 gross tons that was shipped, transferred or otherwise disposed of during December.

Table 8 - Consumption of ferrous scrap and pig iron in open-hearth furnaces in the United States, by State and Region, in gross tons

State and Region	Consumption during December 1954		
	Total scrap	Pig iron	Total charge
United States, total-----	3,206,654	4,128,924	7,335,578
New England, total-----	26,397	7,577	33,974
Connecticut, Massachusetts, and Rhode Island-----	26,397	7,577	33,974
Middle Atlantic, total-----	989,858	1,291,000	2,280,858
New Jersey and New York-----	223,556	270,228	493,784
Pennsylvania (East)-----	213,105	203,621	416,726
Pennsylvania (West)-----	553,197	817,151	1,370,348
East North Central, total-----	1,466,003	1,885,654	3,351,657
Illinois-----	266,839	261,388	528,227
Indiana-----	517,701	649,073	1,166,774
Michigan and Wisconsin-----	143,344	222,996	366,340
Ohio (East)-----	469,804	641,200	1,111,004
Ohio (West)-----	68,315	110,997	179,312
West North Central, total-----	59,508	39,374	98,882
Minnesota and Missouri-----	59,508	39,374	98,882
South Atlantic, total-----	283,413	430,944	714,357
Delaware and Maryland-----	189,988	295,428	485,416
Georgia and West Virginia-----	93,425	135,516	228,941
East South Central, total-----	101,475	227,387	328,862
Alabama and Kentucky-----	101,475	227,387	328,862
West South Central, total-----	81,156	39,061	120,217
Oklahoma and Texas-----	81,156	39,061	120,217
Rocky Mountain, total-----	92,557	152,676	245,233
Colorado and Utah-----	92,557	152,676	245,233
Pacific Coast, total-----	106,287	55,251	161,538
California and Washington-----	106,287	55,251	161,538

FOREIGN TRADE 1/

According to the Bureau of the Census, exports of iron and steel scrap totaled 292,315 gross tons in December and 138,285 tons in November; exports of pig iron during December totaled 2,713 tons and 143 tons in November. Imports of scrap totaled 26,799 gross tons in December compared with 39,229 tons in November. Imports of pig iron totaled 10,386 gross tons in December and 18,697 tons in November. In addition to the above imports of pig iron during December there was 1,297 tons of sponge iron, valued at \$268,977, imported, of which 155 tons came from Canada and 1,142 tons from Sweden.

Table 9 - Imports of iron and steel scrap into the United States
in December 1954 and year 1954 by countries
(U. S. Department of Commerce)

Country	December 1954		January to December 1954	
	Gross tons	Value	Gross tons	Value
Canada and Newfoundland-----	23,802	\$787,014	199,092	\$5,419,249
Cuba-----	-	-	2,582	42,327
French Morocco-----	-	-	809	28,393
Japan-----	40	7,122	333	57,137
Union of South Africa-----	137	3,836	1,251	33,971
All others-----	2,820	68,997	9,369	370,377
Total-----	26,799	\$866,969	213,436	\$5,951,454

Table 10 - Exports of iron and steel scrap from the United States
by countries
(U. S. Department of Commerce)

Country	December 1954		January to December 1954	
	Gross tons	Value	Gross tons	Value
Canada-----	2,728	\$116,717	40,451	\$1,354,121
Italy-----	89,106	2,907,978	156,444	5,045,047
Japan-----	8,986	391,536	292,058	11,782,400
Mexico-----	12,900	399,156	201,866	5,932,527
Spain-----	-	-	48,653	1,467,117
United Kingdom-----	70,885	2,407,219	161,914	5,070,046
West Germany-----	73,403	2,243,449	227,582	7,411,777
All others-----	34,307	1,279,618	224,766	8,279,820
Total-----	292,315	\$9,745,673	1,353,734	\$46,342,855

Table 11 - Exports of iron and steel scrap from the United States
by grades
(U. S. Department of Commerce)

	December 1954		January to December 1954	
	Gross tons	Value	Gross tons	Value
No. 1 and No. 2 heavy melting scrap-----	177,824	\$5,920,711	900,993	\$30,433,710
Baled sheet melting scrap-----	101,051	3,240,118	289,023	9,270,083
Borings, shoveling and turnings-----	389	13,235	13,783	370,651
Iron scrap-----	9,888	325,250	91,478	2,863,308
Rerolling material-----	636	21,412	14,896	865,413
All other scrap 2/-----	2,527	224,947	43,561	2,539,690
Total-----	292,315	\$9,745,673	1,353,734	\$46,342,855

1/ To conform with other data in this report foreign trade data include tin plate scrap.
2/ Includes terms plate, tin plate, circles, cobbles strip and scroll shear butts.