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Stewart L. Udall, Secretary

Walter R. Hibbard, Jr., Director

Iron and Steel Scrap, Monthly

IRON AND STEEL SCRAP IN NOVEMBER 1966

Total scrap consumption in November decreased by 4 percent from the previous month but was 17 percent higher than the corresponding period in 1965, according to the Bureau of Mines, U.S. Department of the Interior.

Production of steel declined by 5 percent from October, while consumer's pig iron stocks increased 5 percent and scrap stocks remained stationary. Ferrous scrap comprised 50.4 percent of the metallics consumed.

The Bureau of Mines granted the Colorado School of Mines \$35,000 for a 2-year study on removal of contaminate elements from automotive scrap. The proposed scheme involved selective vacuum distillation of the contaminants from molten scrap metal.

Table 1.-Production, receipts, consumption, and consumers' stocks of ferrous scrap and pig iron, June 1966 through November 1966
(Short 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/}
June----	4,733,953	3,049,126	7,783,079	7,797,387	7,841,787	7,483,232	2,276,750
July----	4,380,182	2,641,443	7,021,625	6,795,002	7,596,088	7,708,651	2,464,119
Aug.----	4,713,635	3,048,905	7,762,540	7,497,833	7,733,564	7,982,108	2,452,364
Sept.----	4,786,632	2,908,244	7,694,876	7,677,176	7,797,554	8,004,897	2,516,154
Oct.----	4,752,045	3,086,213	7,838,258	7,809,510	7,943,480	8,035,247	2,652,262
Nov.----	4,544,901	2,963,284	7,508,185	7,506,672	7,383,748	8,033,746	2,787,743

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

^{2/} Excludes 461,083 short tons of scrap shipped, transferred, or otherwise disposed of during the month.

Prepared April 28, 1967, by F. E. Brantley, Physical Scientist.

Table 2.-Production and receipts of ferrous scrap by major consuming industries' plants
June 1966 through November 1966
(Short tons)

Date	Home scrap produced			Purchased scrap received (net) <u>1/</u>		
	Mfgs. of steel ingots and castings	Mfgs. of steel castings	Iron foundries and miscel- laneous users	Mfgs. of steel ingots and castings	Mfgs. of steel castings	Iron foundries and miscel- laneous users
June-----	4,003,505	142,101	588,347	2,091,238	202,229	755,659
July-----	3,817,145	100,056	462,981	1,894,941	164,127	582,375
August-----	4,062,470	130,585	520,580	2,195,737	181,854	671,314
September-----	4,034,011	136,648	615,973	2,005,738	185,907	716,599
October-----	4,016,191	137,779	598,075	2,148,390	191,336	746,487
November-----	3,832,893	129,865	582,143	2,051,328	196,992	714,964

1/ Excludes scrap shipped, transferred or otherwise disposed of during the month.

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Table 3.-Consumers' stocks, production, receipts, consumption and shipments of iron
and steel scrap, by grades, November 1966
(Short tons)

Grades of scrap	Stocks at beginning of month <u>1/</u>	Home scrap produced	Purchased scrap received <u>1/</u>	Consump- tion	Ship- ments	Stocks at end of month
Steel scrap, excludes rerolling rails:						
Carbon-----	6,111,375	3,369,620	2,817,100	5,840,213	346,211	6,111,671
Alloy, excludes stainless-----	329,306	216,231	60,997	266,424	9,323	330,787
Stainless-----	125,011	49,142	34,026	83,671	6,343	118,165
Cast iron, includes borings-----	1,466,541	909,908	512,244	1,316,364	99,206	1,473,123
Total-----	8,032,233	4,544,901	3,424,367	7,506,672	461,083	8,033,746

1/ Revised.

1/ Purchased scrap received from dealers and all others.

Table 4.-Home scrap produced by source, by type of manufacturers, during November 1966
(Short tons)

	Source of scrap			Total
	Recirculating <u>1/</u>	Obsolete <u>2/</u>	Other including slag	
Manufacturers of steel ingots and castings-----	3,344,948	300,923	187,022	3,832,893
Manufacturers of steel castings-----	128,458	1,271	136	129,865
Iron foundries and miscellaneous users-----	570,007	11,324	812	582,143
Total-----	4,043,413	313,518	187,970	4,544,901

1/ Includes home, plant, or recycled iron and steel scrap.

2/ Includes molds, stools, machinery, and buildings; excludes rerolling rails.

Table 5.-Consumption of iron and steel scrap at major consuming industries' plants
during November 1966, and consumption year to date, by grades
(Short tons)

Grades of scrap	Mfgs. of steel ingots and castings	Mfgs. of steel castings	Iron foundries and miscel- laneous users	Total consump- tion	Total consumption year to date
Steel scrap, excludes rerolling rails:					
Carbon-----	5,110,641	266,340	463,232	5,840,213	65,522,761
Alloy, excludes stainless-----	240,670	11,408	14,346	266,424	3,160,089
Stainless-----	76,697	3,856	3,118	83,671	893,047
Cast iron, includes borings-----	466,129	34,944	815,291	1,316,364	14,895,199
Total-----	5,894,137	316,548	1,295,987	7,506,672	84,471,096

Table 6.-Stocks of iron and steel scrap and pig iron on hand at major consuming industries' plants
at end of month
(Short 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	Total
June 30, 1966---	6,130,455	359,300	993,477	7,483,232	1,915,572	31,211	329,967	2,276,750
July 31, 1966---	6,329,076	373,065	1,006,510	7,708,651	2,022,756	30,092	411,271	2,464,119
Aug. 31, 1966---	6,625,462	377,857	978,789	7,982,108	1,992,241	29,402	430,721	2,452,364
Sept. 30, 1966--	6,678,829	373,956	952,112	8,004,897	2,019,583	27,055	439,516	2,516,154
Oct. 31, 1966---	6,701,446	379,010	954,791	8,035,247	2,187,807	27,991	436,464	2,652,262
Nov. 30, 1966---	6,688,675	389,807	955,264	8,033,746	2,299,372	27,376	460,995	2,787,743

Table 7.-Pig iron stocks, production, receipts, consumption and shipments
(Short tons)

Date	Stocks at beginning of month <u>r/</u>	Produced during the month	Received during the month	Consumed during the month	Shipped to others during the month	Stocks at end of month
October 1966-----	2,520,799	8,112,912	684,161	7,943,480	722,130	2,652,262
November 1966-----	2,658,648	7,503,208	630,876	7,383,748	621,241	2,787,743

r/ Revised.

Table 8.-Consumers' receipts and total consumption of iron and steel scrap,
by grades, during November 1966
(Short tons)

Grades of scrap (Excludes rerolling rails)	Receipts during the month			Total consumption
	From dealers	From others	Total	
Carbon steel:				
Low phosphorus plate and punchings----	245,285	73,761	319,046	386,872
Cut structurals and plate-----	104,528	2,077	106,605	107,838
Steel car wheels-----	15,058	523	15,581	14,572
No. 1 heavy melting-----	485,088	207,635	692,723	2,482,829
No. 1 and electric furnace bundles---	379,999	154,029	534,028	587,739
No. 2 and all other bundles-----	379,713	35,738	415,451	472,978
Turnings and borings-----	241,740	10,183	251,923	263,779
Slag scrap (Fe content)-----	27,441	51,493	78,934	232,716
All other carbon steel scrap-----	312,374	90,435	402,809	1,290,890
Alloy steel, excludes stainless-----	45,183	15,814	60,997	266,424
Stainless steel-----	29,632	4,394	34,026	83,671
Cast iron: Borings-----	61,162	22,260	83,422	111,169
All other cast iron scrap-----	338,735	90,087	428,822	1,205,195
Total-----	2,665,938	758,429	3,424,367	7,506,672

Table 9.-Consumers' production, receipts, consumption and stocks of iron and steel scrap, and consumption of pig iron in the United States by districts and States, November 1966 (Short tons)

District and State	Home scrap produced	Total purchased scrap received ^{1/}	Consumption by grades				Scrap stocks	Pig iron consumption
			Carbon steel (excludes re-rolling mills)	Alloy steel (stainless)	Stainless steel	Cast iron (includes borings)		
New England:								
Connecticut, Massachusetts	21,068	26,106	18,898	961	3,055	24,308	50,202	12,358
Rhode Island	1,519	2,218	982	-----	-----	3,612	2,935	872
Maine, New Hampshire, Vermont	-----	-----	-----	-----	-----	-----	-----	-----
Total	22,587	28,324	19,880	961	3,055	26,938	53,137	13,230
Middle Atlantic:								
New Jersey	22,017	48,513	41,131	780	431	21,887	63,629	85,694
New York	225,905	149,144	303,557	6,175	8,189	54,925	372,806	425,975
Pennsylvania	305,748	238,523	376,244	55,342	3,706	49,486	486,778	667,667
Pennsylvania (East) ^{2/}	712,920	364,690	715,365	67,486	33,382	112,972	929,205	929,352
Total	1,266,590	800,870	1,138,297	129,783	45,708	238,670	1,852,158	2,099,688
East North Central:								
Illinois	394,563	394,976	613,392	15,773	4,692	118,935	752,792	945,046
Indiana	632,293	279,113	708,056	8,740	2,043	96,026	836,035	825,725
Michigan	620,443	383,585	481,467	2,493	6,842	239,896	449,732	449,732
Ohio	612,870	480,165	827,034	83,211	11,572	126,002	1,047,751	770,333
Ohio (East) ^{3/}	197,848	144,404	192,954	614	-----	100,935	294,571	216,674
Wisconsin	51,941	44,907	49,023	471	353	42,022	91,869	48,676
Total	2,280,419	1,677,180	2,892,486	111,272	25,502	723,654	3,752,914	3,256,186
West North Central:								
Iowa	20,599	31,776	42,660	-----	✓	19,475	62,151	66,974
Kansas and Nebraska	4,769	8,377	9,611	-----	-----	3,835	13,446	6,717
Minnesota	22,786	21,283	33,151	-----	-----	12,948	46,637	58,855
Missouri	22,068	71,413	72,340	1,109	✓	14,126	87,133	164,149
Total	70,222	132,849	157,762	1,109	✓	50,384	209,367	296,995
South Atlantic:								
Delaware and Maryland	200,976	31,909	170,894	1,582	6,752	17,501	196,729	409,420
Florida and Georgia	11,012	40,193	55,982	-----	-----	3,142	59,134	43,346
North Carolina and South Carolina	4,834	18,554	10,235	1,564	✓	10,265	21,140	13,162
Virginia and West Virginia	83,454	106,104	159,676	-----	-----	20,106	180,536	137,279
Total	301,176	196,760	396,797	3,146	✓	51,014	457,809	609,207
East South Central:								
Alabama	135,305	107,617	187,082	2,599	✓	62,288	251,971	326,521
Kentucky, Mississippi, Tennessee	86,133	86,523	122,157	8,523	✓	40,860	172,104	229,593
Total	221,438	194,140	309,239	11,122	✓	103,148	424,075	556,114
West South Central:								
Arkansas, Louisiana, Oklahoma	7,062	22,356	22,075	1,982	-----	3,419	25,512	36,631
Texas	112,646	120,594	193,143	-----	✓	52,172	247,514	274,527
Total	119,708	142,950	215,218	1,982	✓	55,591	273,026	311,158
Rocky Mountain:								
Arizona, Colorado, Idaho, Montana, Nevada, Utah	114,442	56,710	137,307	4,154	-----	15,666	157,127	382,671
Total	114,442	56,710	137,307	4,154	-----	15,666	157,127	382,671
Pacific Coast:								
California and Hawaii	133,646	133,380	213,917	1,004	178	43,666	258,765	319,120
Oregon and Washington	14,673	61,204	59,310	1,891	1,463	7,633	70,297	149,470
Total	148,319	194,584	273,227	2,895	1,641	51,299	329,062	468,590
U.S. total	4,544,901	3,424,367	5,840,213	266,424	83,671	1,316,364	7,506,672	8,033,746

^{1/} Includes 161,083 short tons that was shipped, transferred or otherwise disposed of during the month.
^{2/} Pennsylvania is divided into East and West by the eastern boundary of the following counties: McKean, Cameron, Clearfield, Cambria, and Somerset.
^{3/} Ohio is divided into East and West by the eastern boundary of the following counties: Ottawa, Sandusky, Seneca, Crawford, Morrow, Delaware, Franklin, Fitchway, Ross, Pike, and Scioto.
✓ Figures withheld to avoid disclosing individual company confidential data; included in U.S. total.

CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON

Consumption of scrap in November totaled 7,506,672 short tons which was at an average daily rate of 250,222 tons or 1 percent greater than for the year 1965.

In November, open-hearth furnaces used 40 percent of the total scrap, and 56 percent of the pig iron compared with 40 and 57 percent, respectively, in October; electric furnaces in November used 11 percent of the combined total of iron and steel scrap and pig iron charged to all furnaces, with open-hearth using 48 percent. During 1965, these percentages were 10 and 59 percent, respectively. Blast furnaces used 6 percent of the total scrap; the corresponding percentage for the year 1965 was 6.

During November, steelmaking furnaces (open-hearth, Bessemer, basic oxygen converter, and electric) accounted for 75 percent of the total scrap, and 92 percent of the pig iron consumed, the same as during October. In 1965, steelmaking furnaces used 76 percent of the total scrap, and 91 percent of the pig iron. The remainder was used in ironmaking furnaces, principally the cupola. Consumption by type of furnace during November is shown in the following table:

Table 10.-Consumption of iron and steel scrap, and pig iron, by type of manufacturers and furnaces during November 1966
(Short 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
Basic oxygen converters ^{3/}	1,082,569	2,617,466	-----	-----	-----	-----	1,082,569	2,617,466
Bessemer converters	-----	11,938	544	-----	-----	1,413	6,225	13,351
Open-hearth furnaces	2,932,169	4,092,480	55,839	8,574	-----	-----	2,988,008	4,101,054
Electric furnaces ^{4/}	1,350,948	40,940	206,767	2,956	28,287	4,283	1,586,002	48,179
Total steelmaking furnaces	5,365,686	6,762,824	263,150	11,530	33,968	5,696	5,662,804	6,780,050
Blast furnaces ^{5/}	412,899	-----	-----	-----	-----	-----	412,899	-----
Cupola furnaces	108,288	21,954	34,327	1,459	1,095,827	263,341	1,238,442	286,754
Air furnaces	4,266	1,068	19,071	3,000	111,694	9,586	135,031	13,654
Direct castings	-----	238,399	-----	-----	-----	64,891	-----	303,290
Ferroalloy	-----	-----	-----	-----	42,573	-----	43,573	-----
Miscellaneous	2,998	-----	-----	-----	10,925	-----	13,923	-----
Total November 1966	5,894,137	7,024,245	316,548	15,989	1,295,987	343,514	7,506,672	7,383,748
Total October 1966	6,147,586	7,556,926	323,093	15,951	1,338,831	370,603	7,809,510	7,943,480
Total September 1966	5,983,395	7,410,686	326,173	15,400	1,367,608	371,468	7,677,176	7,797,554
Total August 1966	5,958,833	7,341,438	302,946	16,338	1,236,054	375,788	7,497,833	7,733,564
Total July 1966	5,510,106	7,281,442	255,628	11,286	1,029,268	303,360	6,795,002	7,596,088
Total June 1966	6,077,707	7,434,445	347,031	16,758	1,372,649	390,584	7,797,387	7,841,787

^{1/} Includes only those castings made by companies producing steel ingots. ^{2/} Excludes companies that produce both steel castings and steel ingots. ^{3/} Includes scrap and pig iron processed in metallurgical blast cupola and used in oxygen converters. ^{4/} Includes crucible furnaces. ^{5/} Includes consumption in all blast furnaces producing pig iron.

Table 11.-Consumption of iron and steel scrap and pig iron in open-hearth furnaces in the United States, by districts and States, during November 1966
(Short tons)

District and State	Scrap	Pig iron	Total charge
New England and Middle Atlantic:			
New York and Rhode Island-----	141,831	150,143	291,974
Pennsylvania (East)-----	279,541	499,915	779,456
Pennsylvania (West)-----	473,739	798,221	1,271,960
Total-----	895,111	1,448,279	2,343,390
East North Central:			
Illinois-----	240,364	328,284	568,648
Indiana-----	571,367	580,881	1,152,248
Michigan and Wisconsin-----	87,806	86,039	173,845
Ohio (East)-----	391,856	507,259	899,115
Ohio (West)-----	149,201	188,352	337,553
Total-----	1,440,594	1,690,815	3,131,409
West North Central:			
Minnesota and Missouri-----	32,776	41,191	73,967
Total-----	32,776	41,191	73,967
South Atlantic:			
Delaware, Maryland, West Virginia-----	226,894	437,473	664,367
Total-----	226,894	437,473	664,367
East and West South Central:			
Alabama, Kentucky, Texas-----	209,908	271,569	481,477
Total-----	209,908	271,569	481,477
Rocky Mountain and Pacific Coast:			
California, Colorado, Utah-----	182,725	211,727	394,452
Total-----	182,725	211,727	394,452
U.S. total-----	2,988,008	4,101,054	7,089,062

FOREIGN TRADE

Exports of iron and steel scrap totaled 492,651 short tons in November compared with 629,772 tons in October. Exports of pig iron during November totaled 160 tons and 730 tons in October. Imports of scrap totaled 18,699 short tons in November compared with 15,066 tons in October. Of the scrap imported during November, 18,630 short tons came from Canada and 69 tons from other sources. Imports of pig iron totaled 136,221 short tons in November and 99,020 tons in October. In addition to the foregoing imports of pig iron during November, there was 27,637 tons of sponge iron, valued at \$317,751, imported, of which 25,668 tons came from Canada and 1,969 tons from other sources.

Table 12.-U.S. exports of iron and steel scrap, by countries

Country	November 1966		Jan. through Nov. 1966	
	Short tons	Value	Short tons	Value
Argentina-----	-----	-----	22,214	\$668,605
Canada-----	51,507	\$1,462,751	699,587	20,268,565
France-----	-----	-----	8,707	379,565
Germany, West-----	1	624	14,709	532,786
Italy-----	5,159	153,645	305,879	8,465,706
Japan-----	332,595	10,755,809	2,774,595	77,823,353
Korea-----	8,177	245,750	257,082	8,963,767
Mexico-----	72,237	2,289,067	718,991	23,150,356
Spain-----	275	11,257	84,748	2,038,567
Sweden-----	826	113,600	45,761	2,356,841
Taiwan-----	10,007	661,634	123,643	4,897,591
All others-----	11,867	369,557	254,542	7,807,364
Total-----	492,651	16,063,694	5,310,458	157,353,066

Table 13.-U.S. exports of iron and steel scrap, by grades

Grades of scrap	November 1966		Jan. through Nov. 1966	
	Short tons	Value	Short tons	Value
No. 1 heavy melting steel scrap----	199,704	\$6,224,802	2,042,160	\$64,184,123
No. 2 heavy melting steel scrap----	89,948	2,394,180	872,887	23,692,746
No. 1 bundles-----	8,829	272,215	203,307	6,606,312
No. 2 bundles-----	72,691	1,614,117	1,141,917	24,570,824
Borings, shovelings, and turnings--	33,616	728,487	331,291	7,063,965
Iron scrap-----	20,219	556,389	246,332	7,251,450
Stainless steel scrap-----	7,221	1,992,989	32,689	8,149,320
All other scrap <u>1</u> /-----	60,423	2,280,515	439,875	15,834,326
Total-----	492,651	16,063,694	5,310,458	157,353,066

1/ Includes tin plate and terne plate.