



MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON, D. C. 20240



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Iron and Steel Scrap, Monthly

IRON AND STEEL SCRAP IN JULY 1969

Reflecting a seasonal dip in steel production, consumption of ferrous scrap and pig iron decreased 7 and 3 percent, respectively, from that for June, according to the Bureau of Mines, U.S. Department of the Interior. Exports of ferrous scrap dropped 13 percent from the high level of the previous month, receipts of purchased scrap decreased 8 percent, and stocks remained unchanged.

On July 11, the U.S. Department of Commerce announced that it would stop granting licenses for exporting primary and secondary nickel. The action was found necessary in view of an expected curtailment of the U.S. supply of nickel from Canada resulting from work stoppages in Ontario. Among the products covered by the action were stainless steel scrap and nickel alloy scrap. Licenses already issued but not used before July 11 were not affected.

Effective July 25, Pickands Mather Co., sales agent for Interlake Steel Corp., raised the price of merchant pig iron \$2.50 a gross ton, f.o.b. furnace. Other producers followed with a similar increase which went into effect August 1. The new price for foundry, malleable, and bessemer iron was \$66 a gross ton and the new price for low and intermediate phosphorous grades was \$70.50 a gross ton. The two previous price changes for merchant pig iron were an increase in 1957 and a \$3 a gross ton decrease in 1962.

Laboratory experiments at the Armco Research Center, Middletown, Ohio, and subsequent pilot plant studies at the Kansas City Works of Armco Steel Corp. have demonstrated that it is possible to operate a basic oxygen converter on a 100-percent solid scrap charge when heat is provided by externally preheating the scrap and supplementing with solid fuels in the converter. The converter vessel used was constructed from an inverted 150-ton ladle and the supplemental fuels used were coal, coke, calcium carbide, silicon carbide, and ferrosilicon. The high nitrogen content of the product restricted application of the process to grades where high nitrogen levels are not critical, such as steel for reinforcing bars, fence posts, and wire products. After 99 successful heats, it was concluded that although the process is not competitive with the conventional hot metal process, it does show some potential in limited areas where the conventional basic oxygen furnace process is not possible. Additionally, an evaluation has shown that the process has an economic advantage over electric furnace operation for high tonnage products.

Prepared November 19, 1969, in Mineral Resource Evaluation.

TABLE 1. - U.S. receipts, production, consumption, shipments and stocks of iron and steel scrap and pig iron, by type of manufacturer, July 1969
(Short tons)

	Mfgs. of steel ingots and castings 1/	Mfgs. of steel castings 2/	Iron foundries and miscel- laneous users	Total	Total Year to date 3/
SCRAP:					
Receipts -----	2,580,483	129,371	631,831	3,341,685	25,506,488
Production -----	4,037,738	75,760	385,444	4,498,942	32,408,962
Consumption by grades:					
Carbon steel -					
Low phosphorous plate and punchings	27,830	48,754	49,406	125,990	1,215,524
Cut structural and plate -----	19,422	14,685	60,298	94,405	914,248
No. 1 heavy melting steel -----	2,196,817	19,411	14,941	2,231,169	15,942,818
No. 2 heavy melting steel -----	490,194	237	12,458	502,889	3,758,807
No. 1 and electric furnace bundles-	503,630	5,361	33,852	542,843	4,438,282
No. 2 and all other bundles -----	321,802	2,636	41,336	365,774	2,516,800
Turnings and borings -----	224,477	5,904	35,300	265,681	1,708,280
Slag scrap (Fe content) -----	299,610	208	1,172	300,990	2,184,032
Shredded or fragmented -----	58,617	1,726	9,341	69,684	472,138
All other carbon steel scrap -----	1,201,010	61,248	112,316	1,374,574	10,286,983
Stainless steel -----	65,252	2,068	3,190	70,510	597,287
Alloy steel (except stainless) -----	214,201	11,761	8,601	234,563	1,942,664
Cast iron (include borings) -----	488,318	21,996	546,531	1,056,845	8,252,102
Other grades of scrap -----	39,468	10,153	34,578	84,199	609,953
Total consumption -----	6,150,648	206,148	963,320	7,320,116	54,839,918
Shipments -----	505,584	4,929	36,497	547,010	3,811,774
Stocks end of month -----	6,069,796	297,823	835,937	7,203,556	---
PIG IRON:					
Receipts -----	428,759	8,562	268,266	705,587	4,995,683
Production -----	7,695,040	-	-	7,695,040	54,482,764
Consumption -----	7,400,788	8,463	270,697	7,679,948	54,870,931
Shipments -----	659,846	79	343	660,268	4,800,111
Stocks end of month -----	1,739,828	17,556	233,720	1,991,104	---

1/ Includes only those castings made by companies producing steel ingots. 2/ Excludes companies that produce both steel ingots and castings. 3/ Year to date totals may not agree with a summation of prior monthly totals due to revisions after publication of monthly data.

TABLE 2. - U.S. salient iron and steel scrap and pig iron statistics, July 1969
(Short tons)

State	Receipts	Production	Consumption	Shipments	Stocks end of month	Pig iron consumption
Alabama -----	135,912	174,186	291,777	28,934	221,999	348,586
Arizona -----	W	W	W	W	W	W
Arkansas -----	W	W	W	-	W	-
California ----	129,828	135,468	256,832	5,184	222,439	201,639
Colorado -----	W	W	W	W	-	W
Connecticut ---	7,189	4,781	11,787	463	13,912	1,498
Delaware -----	W	W	W	W	W	W
Florida -----	W	W	W	-	W	W
Georgia -----	W	W	W	W	W	-
Illinois -----	340,999	423,703	739,350	56,216	854,061	607,980
Indiana -----	269,802	674,945	895,757	106,980	737,403	1,066,381
Iowa -----	35,304	8,490	34,253	108	40,498	1,510
Kansas -----	2,655	1,709	4,013	-	4,643	116
Kentucky -----	51,882	65,906	112,154	8,351	101,725	W
Louisiana -----	W	W	W	W	W	W
Maine -----	W	W	W	-	W	W
Maryland -----	72,694	227,432	288,196	19,165	125,921	W
Massachusetts -	2,265	3,450	6,126	174	4,241	1,605
Michigan -----	378,755	356,073	689,494	9,516	493,195	646,358
Minnesota ----	21,559	19,674	41,985	1,818	71,289	W
Mississippi ---	W	W	W	-	W	-
Missouri -----	62,461	23,705	81,740	492	181,232	1,214
Montana -----	W	W	W	W	W	W
Nebraska -----	W	W	W	W	W	W
Nevada -----	W	-	W	-	W	W
New Hampshire -	W	W	W	-	W	W
New Jersey ----	62,122	13,258	59,325	1,566	75,362	7,055
New York -----	91,659	183,955	298,046	4,875	280,494	476,208
North Carolina-	11,699	3,052	16,503	-	21,892	2,672
Ohio -----	603,549	764,219	1,227,348	124,124	1,080,719	1,320,552
Oklahoma -----	13,592	3,790	27,897	-	14,496	1,076
Oregon -----	18,823	3,821	11,543	336	25,616	W
Pennsylvania --	577,643	985,942	1,408,748	151,630	1,700,284	1,832,116
Rhode Island --	2,595	1,625	5,081	107	14,394	362
South Carolina-	1,444	1,856	3,271	-	1,388	W
Tennessee -----	18,252	10,767	24,398	269	15,688	7,564
Texas -----	143,234	127,747	238,581	15,739	287,874	12,206
Utah -----	9,750	74,106	81,213	30	239,271	156,398
Vermont -----	827	538	1,286	-	3,238	391
Virginia -----	20,374	17,184	39,268	787	20,442	W
Washington ----	30,053	11,754	46,349	1,099	73,967	W
West Virginia -	68,869	87,760	144,948	2,609	87,848	237,494
Wisconsin -----	33,507	31,058	58,476	5,246	39,632	10,202
Undistributed--	122,388	56,988	174,371	1,192	148,393	738,765
Total U. S. ---	3,341,685	4,498,942	7,320,116	547,010	7,203,556	7,679,948

W Withheld to avoid disclosing individual company confidential data; included in Undistributed.

TABLE 3. - U.S. consumption of iron and steel scrap by grades, July 1969
(Short tons)

State	CARBON STEEL						Stainless & alloy steel	Cast iron (including borings)	Other grades of scrap including slag
	Low phos., cut struc- tural, and plate	No. 1 & 2 heavy melt- ing steel	No. 1-2 & all other bundles	Turnings & borings	Shredded or fragmentized	All other carbon steel			
Alabama -----	13,891	111,611	50,471	823	-	45,360	4,259	57,961	7,401
Arizona -----	W	-	-	-	-	W	W	W	W
Arkansas -----	-	-	-	-	-	W	-	-	-
California -----	3,856	44,257	27,655	5,112	12,435	108,949	768	36,858	16,932
Colorado -----	W	W	-	W	-	-	W	W	W
Connecticut ---	2,827	639	44	-	-	707	3,778	3,609	W
Delaware -----	W	W	W	W	W	W	W	W	-
Florida -----	W	-	W	-	-	W	-	W	-
Georgia -----	W	W	W	-	-	W	-	W	-
Illinois -----	27,588	241,063	114,996	26,156	9,358	191,316	15,013	105,598	8,262
Indiana -----	9,734	484,829	98,910	26,538	-	129,999	12,451	75,312	57,984
Iowa -----	2,447	2,394	2,530	13,203	17	3,857	47	6,537	3,221
Kansas -----	2,032	-	-	-	W	W	-	807	W
Kentucky -----	-	62,754	13,292	5,289	-	13,251	7,103	7,916	2,549
Louisiana -----	W	-	-	-	-	W	-	-	-
Maine -----	-	-	-	-	-	-	-	W	-
Maryland -----	2,624	W	40,802	W	-	W	4,781	25,075	23,651
Massachusetts -	983	5	W	W	-	412	W	4,260	W
Michigan -----	18,709	45,236	124,192	15,779	W	239,360	7,364	196,747	24,939
Minnesota -----	1,263	20,905	W	W	-	2,444	W	6,675	W
Mississippi ---	-	-	W	-	W	W	-	-	-
Missouri -----	3,307	52,322	W	W	W	2,010	908	11,734	743
Montana -----	-	W	-	-	-	-	-	W	W
Nebraska -----	W	-	-	-	-	W	-	W	-
Nevada -----	W	-	-	-	-	-	-	W	-
New Hampshire -	-	W	-	-	-	-	-	-	-
New Jersey -----	5,890	1,957	13,768	W	W	10,726	651	24,054	334
New York -----	4,750	138,410	18,403	5,638	985	37,436	11,791	47,825	32,808
North Carolina -	W	-	W	-	-	W	-	6,557	-
Ohio -----	58,187	451,176	150,832	84,294	137	196,787	75,195	142,488	68,252
Oklahoma -----	-	W	W	-	W	-	-	W	W
Oregon -----	-	W	W	-	-	W	W	-	-
Pennsylvania ---	26,231	644,034	125,404	43,734	107	153,217	148,078	176,072	91,871
Rhode Island ---	-	W	W	-	-	1,069	W	915	W
South Carolina -	W	-	-	62	-	W	-	2,829	-
Tennessee -----	4,743	W	W	25,551	-	W	-	15,168	2,652
Texas -----	7,034	83,105	19,551	-	W	56,001	3,305	29,343	6,868
Utah -----	W	W	W	W	-	W	W	W	-
Vermont -----	-	W	-	-	-	W	-	W	-
Virginia -----	5,961	W	W	-	W	6,834	W	21,562	-
Washington -----	1,482	20,057	W	959	W	1,099	497	6,528	W
West Virginia---	W	10,349	W	258	-	W	612	4,087	W
Wisconsin -----	13,702	917	-	1,421	-	13,079	162	22,181	7,014
Undistributed---	3,154	318,038	107,767	10,864	46,645	160,661	8,310	18,147	29,708
U.S. Total -----	220,395	2,734,058	908,617	265,681	69,684	1,374,574	305,073	1,056,845	385,189

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FOREIGN TRADE

Exports of iron and steel scrap totaled 789,833 short tons in July compared with 905,818 tons in June. Exports of pig iron during July totaled 2,495 tons and 879 tons in June. Imports of scrap totaled 22,331 short tons in July compared with 47,913 tons in June. Of the scrap imported during July, 21,938 short tons came from Canada and 393 tons from other sources. Imports of pig iron totaled 33,312 short tons in July and 75,066 tons in June. In addition to the foregoing imports of pig iron during July there were 548 tons of sponge iron, valued at \$79,126 imported from Canada.

TABLE 4. - U.S. exports of iron and steel scrap, by countries

Country	July 1969		Year to date	
	Short tons	Value	Short tons	Value
Canada -----	33,972	\$719,624	319,784	\$7,505,733
Hong Kong -----	152	66,692	368	142,682
Italy -----	100,047	2,613,384	431,949	12,213,964
Japan -----	332,695	9,894,368	1,914,297	52,216,685
Korea -----	73,046	2,969,147	365,742	12,475,507
Mexico -----	49,559	1,835,177	314,941	10,381,459
Spain -----	115,596	2,741,109	464,802	10,152,195
Sweden -----	4,393	1,416,385	75,674	9,200,497
Taiwan -----	10,572	503,071	40,347	1,614,454
United Kingdom -----	53,296	1,671,164	187,073	5,862,036
West Germany -----	8,053	550,741	12,889	1,482,056
Other Countries -----	8,452	582,707	128,367	5,662,748
Total -----	789,833	25,563,569	4,256,233	128,910,016

TABLE 5. - U.S. exports of iron and steel scrap, by grades

Grades of scrap	July 1969		Year to date	
	Short tons	Value	Short tons	Value
No. 1 heavy melting steel scrap -----	306,562	\$10,064,447	1,698,387	\$51,519,722
No. 2 heavy melting steel scrap -----	78,512	2,228,888	473,715	12,572,635
No. 1 bundles -----	67,782	2,337,014	222,751	6,604,735
No. 2 bundles -----	77,385	1,543,635	540,908	9,941,936
Borings, shovelings & turnings -----	64,682	1,170,885	295,132	5,058,746
Iron scrap -----	40,995	1,472,574	245,672	7,459,725
Stainless steel scrap ----	5,721	1,972,304	45,938	12,744,510
All other scrap ^{1/} -----	148,194	4,773,822	733,730	23,008,007
Total -----	789,833	25,563,569	4,256,233	128,910,016

^{1/} Includes tin plate and terne plate.