

Mineral Industry Surveys

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IRON AND STEEL SCRAP IN APRIL 2023

In April 2023, purchased steel scrap receipts were essentially unchanged, recirculating scrap production decreased by 5%, and iron and steel scrap consumption was essentially unchanged compared with those in March. Stocks of purchased and home scrap were essentially unchanged from those at the end of March. In April 2023, pig iron production and consumption were unchanged from that in March. Direct-reduced iron receipts increased by 8% and consumption decreased by 4% from that in March (table 1, fig. 1).

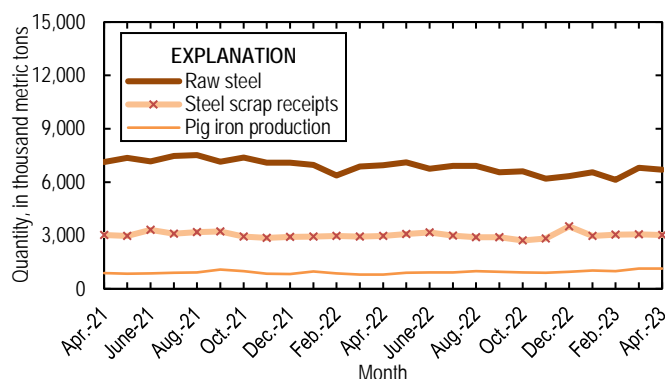


Figure 1. Monthly domestic production of raw steel, receipts of iron and steel scrap, and production of pig iron from April 2021 through April 2023. Sources: U.S. Geological Survey and American Iron and Steel Institute.

Exports of iron and steel scrap in April 2023 decreased by 6% from those in March (fig. 2, table 4). In April 2023, Turkey was the leading destination for exports, accounting for 28% of the total tonnage, followed by Mexico (17%) and Bangladesh (9%) (table 4). New York City, NY, was the leading U.S. Customs district by tonnage of exports, accounting for 14% of the total, followed by Los Angeles, CA, (10%) and Boston, MA, (9%) (table 5).

Imports of iron and steel scrap in April 2023 decreased by 6% compared with those in March (fig. 2, table 7). Canada was the leading country of origin, accounting for 65% of the total tonnage of imports, followed by Mexico (11%) and the United Kingdom (7%) (table 7). Detroit, MI, was the leading U.S. Customs district by tonnage of imports, accounting for 41% of the total, followed by New Orleans, LA, (15%) and Seattle, WA, (13%) (table 8).

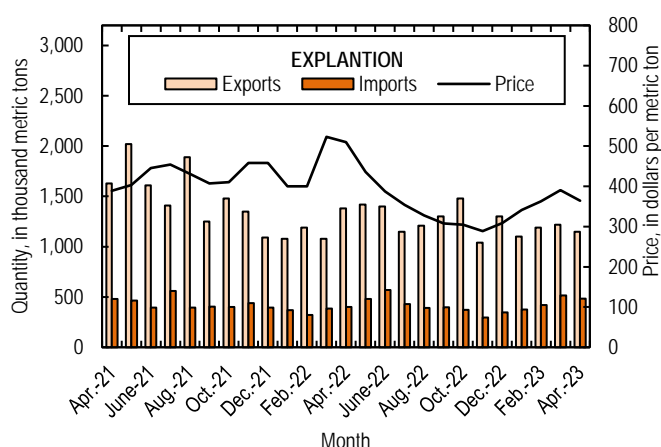


Figure 2. Monthly domestic imports and exports of iron and steel scrap and price for No. 1 heavy melting steel scrap from April 2021 through April 2023. Sources: U.S. Census Bureau and Fastmarkets AMM.

The daily average domestic raw steel production for April, as calculated from the American Iron and Steel Institute's monthly production data, was 223,000 metric tons, a slight increase from that in March and a 4% decrease from that in April 2022. Raw steel production capability utilization was 76.5% in April 2023, up from 75.7% in March and down from 81.9% in April 2022 (table 10).

Industry News

Nippon Steel Corp. announced an approximately \$12 billion project that would construct the world's largest steel mill in Odisha, India, under a joint venture with ArcelorMittal S.A. called AM/NS. The mill would have a 24 million-metric-ton-per-year (Mt/yr) capacity and access to AM/NS's pellet plant at Paradip in the Jagatsinghpur District and the Paradip Port (Sahoo, 2023).

The Liberty Steel mill—operated by GFG Alliance in Wyhall, Australia—has announced intentions to replace their nearly-60-year-old blast furnaces and basic oxygen furnaces with electric arc furnaces to reduce carbon dioxide emissions significantly by 2025. The plan would update the mill's capacity to approximately 1.5 Mt/yr and change the feedstock to

domestically sourced steel scrap for an anticipated 90% decrease in emissions. Additionally, the company is engaging on the potential construction of a 1.8 Mt/yr direct-reduced iron plant that would utilize regional magnetite ore, natural gas, and green hydrogen (Taylor, 2023).

References Cited

Sahoo, Akshaya, 2023, Nippon Steel to set up world's biggest steel project in Odisha: Deccan Chronicle [Teangana, India], April 5. (Accessed August 28, 2023, at <https://www.deccanchronicle.com/business/companies/050423/nippon-steel-to-set-up-worlds-biggest-steel-project-in-odisha.html>.)

Taylor, Brian, 2023, Liberty Steel to make EAF switch in Australia: Recycling Today [Valley View, OH], April 4. (Accessed August 28, 2023, at <https://www.recyclingtoday.com/news/gfg-liberty-steel-blast-electric-arc-furnace-switch-australia-recycling-whyalla/>.)

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TABLE 1
IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON STATISTICS
FOR STEEL PRODUCERS, IN APRIL 2023^{1,2}

(Thousand metric tons)

	April	January–April ³
Scrap:		
Receipts:		
From outside sources	3,020	12,100
From other own company plants	191	696
Production:		
Recirculating scrap	319	1,330
Obsolete scrap	10	40
Consumption (by type of furnace):		
Blast furnace	118	465
Basic oxygen process	298	1,200
Electric furnace	3,050	12,200
Other	--	--
Total consumption	3,460	13,900
Shipments	27	135
Stocks, end of period	3,940	3,940
Pig iron (includes hot metal):		
Receipts	142	547
Production	1,140	4,290
Consumption	1,270	4,830
Stocks, end of period	694	694
Direct-reduced iron: ⁴		
Receipts	208	824
Consumption	205	848
Stocks, end of period	308	308

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes manufacturers of raw steel that also produce steel castings.

³May include revisions to previously published data.

⁴Includes direct-reduced iron, hot-briquetted iron, and iron carbide. Domestic production data are included in "Receipts."

TABLE 2
RECEIPTS FROM OUTSIDE SOURCES, PRODUCTION, CONSUMPTION, AND STOCKS OF IRON AND STEEL SCRAP, BY GRADE, FOR STEEL PRODUCERS, IN APRIL 2023^{1, 2}

(Thousand metric tons)

Item	April				January–April ³		
	Receipts of scrap from outside sources	Production of recirculating scrap	Consumption ⁴	Ending stocks	Receipts of scrap from outside sources	Production of recirculating scrap	Consumption ⁴
Carbon steel:							
Low-phosphorus plate and punchings	14	W	16	W	55	W	64
Cut structural and plate	264	27	294	343	1,050	114	1,170
No. 1 heavy melting steel	265	48	330	184	1,090	192	1,320
No. 2 heavy melting steel	331	27	383	244	1,330	104	1,510
No. 1 and electric furnace bundles	123	--	111	132	447	--	440
No. 2 and all other bundles	68	W	68	42	284	W	299
Electric furnace 1 foot and under (not bundles)	W	--	W	W	W	--	W
Railroad rails	18	W	19	97	72	W	74
Turnings and borings	135	W	139	205	540	W	554
Slag scrap	27	28	56	45	113	109	229
Shredded and fragmentized	912	W	976	1,570	3,700	W	3,890
No. 1 busheling	374	23	376	367	1,490	102	1,570
Steel cans scrap (post consumer)	W	W	10	293	W	W	42
All other carbon steel scrap	178	110	305	230	734	464	1,250
Stainless steel scrap	42	19	62	32	167	75	247
Alloy steel scrap	23	8	31	50	92	33	126
Ingot mold and stool scrap	W	W	W	W	W	W	W
Machinery and cupola cast iron	4	--	W	W	W	--	W
Cast iron borings	12	--	12	W	47	W	49
Other iron scrap	58	8	56	37	219	41	216
Other mixed scrap	154	8	205	44	602	45	796
Total	3,020	319	3,460	3,940	12,100	1,330	13,900

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes manufacturers of raw steel that also produce steel castings.

³May include revisions to previously published data.

⁴Includes recirculating scrap.

TABLE 3
RECEIPTS FROM OUTSIDE SOURCES, PRODUCTION, AND CONSUMPTION OF IRON AND STEEL SCRAP,
BY REGION AND STATE, FOR STEEL PRODUCERS, IN APRIL 2023^{1,2}

(Thousand metric tons)

Region and State	April			January–April ³		
	Receipts of scrap from outside sources	Production of recirculating scrap	Consumption ⁴	Receipts of scrap from outside sources	Production of recirculating scrap	Consumption ⁴
Mid-Atlantic and New England:						
New Jersey, New York, Pennsylvania	192	38	268	814	151	1,040
North Central:						
Illinois and Indiana	340	76	450	1,400	303	1,800
Iowa, Nebraska, Wisconsin	217	W	226	878	27	946
Michigan	38	W	43	152	19	172
Ohio	414	79	486	1,590	345	1,910
Total	1,010	166	1,200	4,010	695	4,830
South Atlantic:						
Georgia, North Carolina, South Carolina	262	W	284	1,090	W	1,160
Virginia, West Virginia	101	W	122	390	W	463
Total	364	15	406	1,480	66	1,620
South Central:						
Alabama, Kentucky, Mississippi, Tennessee	687	45	734	2,750	192	2,980
Arkansas and Texas	469	37	520	1,880	151	2,120
Total	1,160	82	1,250	4,630	343	5,090
Mountain and Pacific:						
California, Colorado, Oregon, Utah, Washington	297	18	332	1,180	74	1,310
Grand total	3,020	319	3,460	12,100	1,330	13,900

W Withheld to avoid disclosing company proprietary data; included in “Total.”

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes manufacturers of raw steel that also produce steel castings.

³May include revisions to previously published data.

⁴Includes recirculating scrap.

TABLE 4
U.S. EXPORTS OF IRON AND STEEL SCRAP BY SELECTED REGION AND COUNTRY
OR LOCALITY, IN APRIL 2023^{1,2}

(Thousand metric tons and thousand dollars)

Country or locality	April		January–April ³	
	Quantity	Value	Quantity	Value
Bangladesh	106	44,400	380	154,000
Belgium	1	835	7	8,940
Canada	38	15,600	155	61,500
China	1	2,630	8	13,700
Ecuador	--	--	30	12,300
Greece	--	--	30	11,700
India	76	51,100	341	209,000
Italy	60	25,400	91	39,500
Korea, Republic of	13	6,960	116	53,800
Malaysia	13	14,600	45	52,300
Mexico	195	60,900	762	229,000
Morocco	--	--	17	6,170
Netherlands	(4)	505	3	5,310
Pakistan	19	14,000	80	58,100
Peru	44	18,100	178	72,600
Taiwan	80	34,800	371	163,000
Thailand	16	14,900	104	62,600
Turkey	326	140,000	1,270	515,000
Vietnam	80	35,200	543	221,000
Other ⁵	77	23,300	122	48,700
Total	1,150	503,000	4,650	2,000,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is on a free-alongside-ship basis.

³May include revisions to previously published data.

⁴Less than ½ unit.

⁵Includes countries with quantities of less than 500 metric tons for the current year.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF IRON AND STEEL SCRAP BY REGION AND
SELECTED CUSTOMS DISTRICT, IN APRIL 2023^{1,2}

(Thousand metric tons and thousand dollars)

Customs district	April		January–April ³	
	Quantity	Value	Quantity	Value
Baltimore, MD	59	29,400	181	92,700
Boston, MA	104	45,800	322	134,000
Buffalo, NY	5	3,230	21	14,700
Charleston, SC	3	3,590	16	14,700
Columbia–Snake, OR	67	31,200	249	106,000
Dallas–Forth Worth, TX	--	--	(4)	4
Detroit, MI	13	5,520	68	27,900
Duluth, MN	(4)	321	1	1,190
El Paso, TX	1	270	85	870
Honolulu, HI, and Anchorage, AK	1	507	31	12,600
Houston–Galveston, TX	27	16,300	80	57,500
Laredo, TX	103	26,500	331	101,000
Los Angeles, CA	113	50,200	582	268,000
Miami, FL	14	8,890	82	39,600
Mobile, AL	1	541	4	4,350
New Orleans, LA	1	610	3	2,910
New York City, NY	161	87,100	692	331,000
Norfolk, VA	30	20,700	139	87,900
Ogdensburg, NY	2	485	4	1,040
Pembina, ND	50	4,480	74	14,000
Philadelphia, PA	71	29,500	341	133,000
Portland, ME	1	186	45	17,800
Providence, RI	48	20,700	175	68,900
San Diego, CA	26	6,410	95	25,500
San Francisco, CA	93	40,800	493	202,000
San Juan, PR	24	8,660	97	31,100
Savannah, GA	13	11,500	57	47,700
Seattle, WA	65	28,500	208	91,800
St. Albans, VT	2	449	4	1,120
Tampa, FL	34	16,600	136	58,100
U.S. Virgin Islands	6	2,340	6	2,340
Other	7	2,140	26	6,430
Total	1,150	503,000	4,650	2,000,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is on a free-alongside-ship basis.

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6
U.S. EXPORTS OF IRON AND STEEL SCRAP AND OTHER
FERROUS PRODUCTS BY GRADE, IN APRIL 2023^{1,2}

(Thousand metric tons and thousand dollars)

Item	April		January–April ³	
	Quantity	Value	Quantity	Value
No. 1 heavy melting steel	472	191,000	1,890	772,000
No. 2 heavy melting steel	57	28,400	218	102,000
No. 1 bundles	8	3,130	62	12,500
No. 2 bundles	(4)	9	2	240
Shredded steel scrap	373	162,000	1,560	637,000
Borings, shovelings, and turnings	2	708	16	4,330
Cut plate and structural	72	30,900	246	108,000
Tinned iron or steel	9	1,970	43	7,220
Remelting scrap ingots	(4)	166	1	351
Cast iron	69	15,100	241	58,700
Other iron and steel	4	896	15	3,140
Total carbon steel and cast iron	1,070	434,000	4,300	1,710,000
Stainless steel	30	31,100	130	146,000
Other alloy steel	49	38,200	220	146,000
Total stainless and alloy steel	79	69,300	350	292,000
Total carbon, stainless, alloy steel, and cast iron	1,150	503,000	4,650	2,000,000
Ships, boats, and other vessels for breaking up (for scrapping)	1	240	3	422
Used rails	(4)	37	(4)	37
Used rails for rerolling and other uses	(4)	673	1	1,980
Total scrap exports	1,150	504,000	4,650	2,000,000
Exports of manufactured ferrous products,				
Pig iron < or = 0.5% phosphorus	3	1,930	8	6,220
Pig iron > or = 0.5% phosphorus	--	--	--	--
Alloy Pig Iron	(4)	26	(4)	73
Total pig iron	3	1,960	8	6,290
Direct-reduced iron (DRI)	3	20	5	82
Granules for abrasive cleaning and other uses	2	3,120	8	11,900
Powders of alloy steel	1	8,280	4	25,600
Other ferrous powders	5	6,940	20	28,300
Total DRI, granules, powders	11	18,400	37	65,900
Grand total	1,160	525,000	4,700	2,070,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Export valuation is on a free-alongside-ship basis.

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP
BY SELECTED COUNTRY OR LOCALITY, IN APRIL 2023^{1,2}

(Thousand metric tons and thousand dollars)

Country or locality	April		January–April ³	
	Quantity	Value	Quantity	Value
Canada	315	151,000	1,260	549,000
Cayman Islands	1	110	2	421
Colombia	(4)	130	1	432
Germany	9	3,780	64	25,200
Japan	(4)	21	8	256
Mexico	53	29,700	199	101,000
Netherlands	34	15,900	66	28,400
New Zealand	--	--	27	12,100
Portugal	--	--	14	5,610
Spain	--	--	12	4,990
Sweden	35	16,600	72	32,100
United Kingdom	36	17,900	69	33,900
Other ⁵	2	1,720	6	6,170
Total	485	237,000	1,800	800,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Import valuation is on a Customs basis.

³May include revisions to previously published data.

⁴Less than ½ unit.

⁵Includes countries with quantities of less than 500 metric tons for the current year.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP
BY SELECTED CUSTOMS DISTRICT, IN APRIL 2023^{1,2}

(Thousand metric tons and thousand dollars)

Customs district	April		January–April ³	
	Quantity	Value	Quantity	Value
Baltimore, MD	(4)	43	1	382
Buffalo, NY	22	12,200	86	49,700
Charleston, SC	43	19,600	187	79,800
Chicago, IL	5	1,690	6	2,180
Cleveland, OH	(4)	116	(4)	476
Detroit, MI	198	103,000	802	367,000
Duluth, MN	7	3,310	37	14,300
El Paso, TX	3	1,790	16	8,090
Great Falls, MT	2	708	6	2,760
Houston-Galveston, TX	(4)	375	(4)	1,350
Laredo, TX	38	22,500	130	70,800
Miami, FL	2	429	7	1,750
Mobile, AL	1	856	9	6,940
New Orleans, LA	72	34,700	145	62,200
New York City, NY	(4)	340	(4)	1,120
Nogales, AZ	4	2,180	20	8,070
Ogdensburg, NY	2	2,190	7	8,390
Pembina, ND	16	7,550	76	31,400
San Diego, CA	6	2,390	25	7,660
Seattle, WA	63	20,500	234	72,700
St. Albans, VT	(4)	176	3	1,070
Other	(4)	342	1	1,300
Total	485	237,000	1,800	800,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ships, boats and other vessels for scrapping. Import valuation is on a Customs basis.

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 9
U.S. IMPORTS OF IRON AND STEEL SCRAP AND OTHER
FERROUS PRODUCTS BY GRADE, IN APRIL 2023^{1,2}

(Thousand metric tons and thousand dollars)

Item	April		January–April ³	
	Quantity	Value	Quantity	Value
No. 1 heavy melting steel	9	3,110	55	19,000
No. 2 heavy melting steel	10	4,060	43	15,200
No. 1 bundles	178	90,500	552	254,000
No. 2 bundles	4	1,810	25	10,600
Shredded steel scrap	97	46,700	332	145,000
Borings, shovelings, and turnings	6	2,480	18	5,460
Cut plate and structural	22	7,390	74	24,100
Tinned iron or steel	24	11,300	102	42,900
Remelting scrap ingots	(4)	43	1	433
Cast iron	11	3,850	77	29,000
Other iron and steel	50	19,900	258	91,900
Total carbon steel and cast iron	412	191,000	1,540	637,000
Stainless steel	17	19,400	72	85,900
Other alloy steel	56	26,600	191	76,800
Total stainless and alloy steel	73	46,000	263	163,000
Total carbon, stainless, alloy steel, and cast iron	485	237,000	1,800	800,000
Ships, boats, and other vessels for breaking up (for scrapping)	--	--	(4)	3
Used rails	(4)	42	1	457
Used rails, nonalloyed	--	--	--	--
Used rails other	(4)	3	(4)	496
Total scrap imports	485	237,000	1,800	801,000
Imports of manufactured ferrous products:				
Pig iron < or = 0.5% phosphorus	(4)	8	(4)	8
Pig iron > or = 0.5% phosphorus	372	188,000	1,290	682,000
Alloy pig iron	--	--	(4)	23
Total pig iron	372	188,000	1,290	682,000
Direct-reduced iron (DRI)	158	56,400	1,100	363,000
Spongy iron products, not DRI	(4)	316	(4)	964
Granules for abrasive cleaning and other uses	2	2,980	6	12,300
Powders of alloy steel	5	12,400	21	48,200
Other ferrous powders	4	8,900	14	34,700
Total DRI, granules, powders	169	81,000	1,140	459,000
Grand total	1,030	506,000	4,240	1,940,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Import valuation is on a Customs basis.

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 10
U.S. RAW STEEL PRODUCTION, RAW STEEL CAPABILITY UTILIZATION,
AND CONTINUOUS CAST STEEL PRODUCTION¹

Period	Raw steel production, thousand metric tons		Raw steel capability utilization, percent		Continuous cast steel production, percent	
	Monthly	Year to date ²	Monthly	Year to date ²	Monthly	Year to date ²
2022:						
April	6,950	27,200	81.9	80.3	99.7	99.7
May	7,120	34,300	81.1	80.5	99.7	99.7
June	6,760	41,000	79.6	80.3	99.7	99.7
July	6,910	47,900	78.1	80.0	99.7	99.7
August	6,910	54,900	78.0	79.7	99.7	99.7
September	6,550	61,400	76.4	79.4	99.7	99.7
October	6,610	68,000	73.7	78.8	99.7	99.7
November	6,200	74,200	71.5	78.1	99.6	99.7
December	6,330	80,500	70.6	77.5	99.7	99.7
2023:						
January	6,550	6,550	73.0	73.0	99.6	99.6
February	6,120	12,700	75.5	74.2	99.7	99.7
March	6,800	19,500	75.7	74.7	99.7	99.7
April	6,690	26,200	76.5	75.1	99.7	99.7

¹Data are rounded to no more than three significant digits.

²May include revisions to previously published data.

Source: American Iron and Steel Institute.

TABLE 11
COMPOSITE PRICES FOR STEEL SCRAP AND PIG IRON

Period	Steel Scrap ¹		Pig Iron ²	
	\$/lt	\$/t	\$/lt	\$/t
2022:				
April	518.33	510.14	649.12	638.87
May	443.33	436.33	566.12	557.18
June	393.33	387.12	753.47	741.57
July	360.00	354.31	742.36	730.64
August	333.33	328.07	974.43	959.04
September	313.33	308.38	618.84	609.07
October	310.00	305.11	924.99	910.38
November	293.33	288.70	511.23	503.16
December	313.33	308.38	662.89	652.42
Average, January–December	385.28	379.19	662.64	652.18
2023:				
January	346.67	341.20	560.18	551.33
February	368.33	362.51	439.42	432.48
March	396.67	390.41	600.00	590.53
April	370.00	364.16	492.25	484.48

¹Prices are for No. 1 heavy melting steel scrap. Source: Fastmarkets-AMM.

²Prices are Brazilian basic pig iron, free on board, New Orleans, LA. Source: U.S. Census Bureau.

Note: Long tons = lt; metric tons = t.

TABLE 12
U.S. IRON AND STEEL SCRAP RECEIPTS FROM OUTSIDE SOURCES, PRODUCTION OF PIG IRON,
AND DIRECT-REDUCED IRON (DRI) CONSUMPTION¹

(Thousand metric tons)

Period ²	Receipts of scrap from outside sources		Pig iron production		DRI consumption	
	Monthly	Year to date	Monthly	Year to date	Monthly	Year to date
2022:						
April	2,980	11,800	802	3,450	265	1,000
May	3,080	14,900	903	4,350	291	1,290
June	3,170	18,100	920	5,270	309	1,600
July	2,990	21,100	922	6,200	262	1,860
August	2,900	24,000	988	7,180	264	2,130
September	2,910	26,900	950	8,130	187	2,310
October	2,720	29,600	918	9,050	190	2,500
November	2,830	32,400	898	9,950	184	2,690
December	3,510	35,900	956	10,900	202	2,890
2023:						
January	2,980	2,980	1,030	1,030	219	219
February	3,050	6,040	986	2,020	212	431
March	3,060	9,090	1,140	3,160	213	644
April	3,020	12,100	1,140	4,290	205	848

¹Data are rounded to no more than three significant digits.

²May include revisions to previously published data.