

Mineral Industry Surveys

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IRON ORE IN DECEMBER 2015

U.S. mine production and shipments of iron ore in December 2015 were 3.23 million metric tons (Mt) and 3.29 Mt, respectively (fig. 1, table 1). Average daily production of iron ore was 104,000 metric tons (t), 15% less than that of November 2015 and 32% less than that of December 2014. Average daily shipments of iron ore were 106,000 t, slightly less than those of November and 42% less than those in December 2014. Mine stocks at the end of December 2015 were slightly less than those held in November and 38% greater than those held in December 2014. As of December 2015, six iron ore mines and one direct-reduced iron (DRI) facility were either shut down or idled, resulting in reduced production, reduced shipments, and increased stocks compared with 2014. Four pellet operations, one tailings reclamation operation, and one DRI facility were operational during the month.

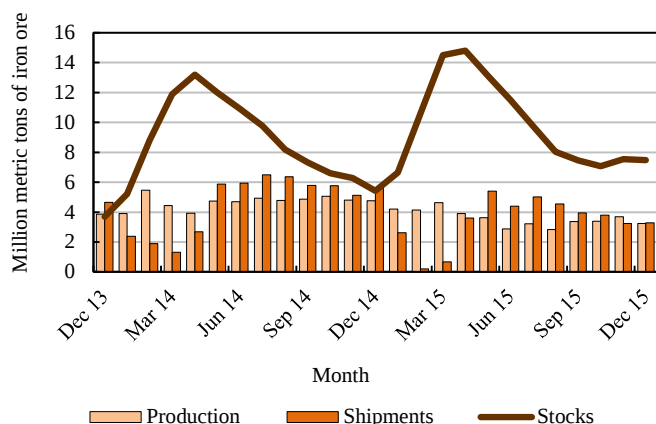


Figure 1. Monthly domestic production, shipments, and stocks of iron ore from December 2013 through December 2015. Source: U.S. Geological Survey

Monthly iron ore data are reported as gross weight unless otherwise noted and do not include iron metallics such as pig iron, direct-reduced iron, hot-briquetted iron, or iron nuggets. Data for iron metallics can be found in the Iron Ore chapter in the USGS Minerals Yearbook, Volume I, Metals and Minerals.

U.S. exports of iron ore totaled 706,000 t in December 2015, 41% greater than those in November and about 22% less than those in December 2014. U.S. imports of iron ore totaled 405,000 t in December 2015, 47% greater than those in November 2015 and 21% greater than those in December 2014 (fig. 2).

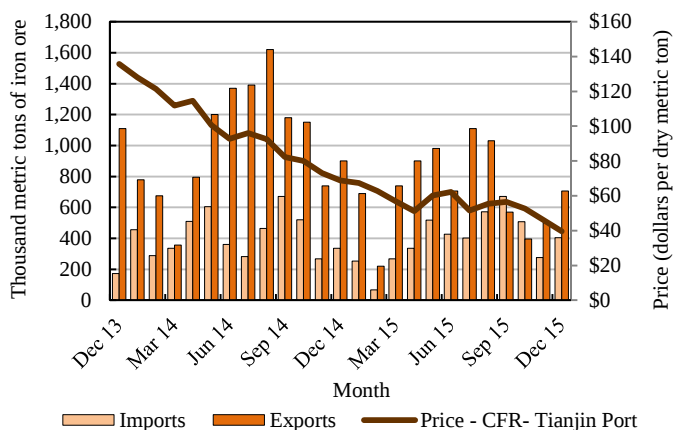


Figure 2. Monthly domestic imports and exports of iron ore and spot prices for iron ore import fines, 62% iron content CFR, at Tianjin Port, from December 2013 through December 2015. Source: U.S. Census Bureau and Index Mundi, undated.

Annual Review

On an annual basis for 2015, preliminary iron ore production for the United States totaled 43.1 Mt, a 21% decrease from preliminary production of 54.3 Mt in 2014. Preliminary iron ore shipments for the United States totaled 40.7 Mt in 2015, a 25% decrease from preliminary shipments of 54.1 Mt in 2014. Stocks were 7.5 Mt at yearend 2015, 38% greater than those in 2014.

Significant decreases in domestic iron ore production and shipments were a result of the shutdown or decreased production of 7 of the 11 primary iron ore mines throughout 2015. A sustained increase in steel imports in 2014 and 2015 from those in 2013 was attributed to decreased global iron and

steel prices as well as a supply-demand imbalance in the iron and steel industry.

The average spot price for iron ore fines at 62% iron content (cost and freight Tianjin port) averaged \$55.21 per dry metric ton in 2015, calculated using a average monthly prices, 28% lower than the 2014 average of \$96.84 and 59% lower than the average 2013 of \$135.36 (Index Mundi, undated).

Industry News

On December 19, U.S. Steel Corp. reached a tentative agreement with the United Steelworkers Union, covering approximately 18,000 union-represented employees, including those at the company's iron ore mines. The agreement was subject to ratification by union members (U.S. Steel Corp, 2015).

A subsidiary of Magnetation LLC was authorized by the U.S. Bankruptcy Court for the District of Minnesota to assume its long-term iron ore pellet agreement with AK Steel Corp. (Magnetation LLC., 2015). Since 2011, Magnetation has used advanced magnetic recovery processes to reclaim iron ore from old stockpiles and tailings basins, containing primarily hematite, which was previously unrecoverable.

The Minnesota Executive Council cut mineral royalty rates for iron ore mined on State lands. The rate was reduced for Hibbing Taconite Co. (a joint venture of ArcelorMittal S.A., Cliffs Natural Resources Inc., and U.S. Steel), ArcelorMittal's Minorca Mine, and Cliffs Natural Resources' Northshore Mining Co. by 19%, retroactive to April 2015 and through June 2016. Similar rate cuts were enacted for U.S. Steel's Minntac Mine earlier in the year (Myers, 2015).

Essar Steel Minnesota Inc. and its parent company, Essar Global Fund Ltd. accepted the State's final offer for repayment of multiple State-funded loans. The company will begin making payments in February 2016, repaying \$10 million to the State by the end of March and making quarterly payments, beginning in 2017, to satisfy the remaining \$66 million of the loan. The agreement also requires the company to notify the State of the repayment status to contractors and project vendors each quarter. The company plans to open a 7-million-metric-ton-per-year (Mt/yr) pellet plant in Minnesota by yearend 2016 (State of Minnesota, 2015).

Roy Hill Mine, a 55-Mt/yr iron ore mine in Western Australia, began production in early December 2015. The \$10-billion-mine was a joint venture, majority-owned by Hancock Prospecting Pty. Ltd. A portion of ore from the mine was to be shipped to China, which will result in increased iron ore shipments from Australia to China (Hoyle, 2015). BC Iron Ltd., a junior miner in Western Australia, announced it would suspend operations at the Nullagine Joint-Venture project through December and January. The project maintained an 11 Mt stockpile of unprocessed iron ore and will ship direct-shipping ore early in 2016 and attempt to sell unprocessed low-

grade ore to Fortescue Metals Group Ltd.'s Christmas Creek Mine (Diss, 2015).

Baosteel Group Corp. announced it would suspend work on its West Pilbara [Australia] Project following sustained decreases in global iron ore prices and uncertainty about future supply and demand. This was the fourth iron ore project in Australia to be suspended since April. The \$5.4 billion project had been expected to produce 40 Mt/yr from its 2,000 Mt of reserves (Ng, 2015).

Kumba Iron Ore Ltd., a joint venture in South Africa, which is majority-owned by Anglo American Plc, announced that it would restructure its Sishen Mine, the largest iron ore mine in Africa. The company planned to reduce output by 28% to 26 Mt from 36 Mt (Crowley, 2015).

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TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND STOCKS OF IRON ORE^{1,2}
(Exclusive of ore containing 5% or more of manganese)

(Thousand metric tons)

Period	Production		Shipments ³		Stocks
	Monthly	Year to date	Monthly	Year to date	End of Month
2014, December	4,770	54,300	5,630	54,100	5,430
2015:					
January	4,210	4,210	2,610	2,610	6,640
February	4,130	8,340	194	2,810	10,600
March	4,640	13,000	670	3,480	14,500
April	3,910	16,900	3,600	7,080	14,800
May	3,620	20,500	5,400	12,500	13,100
June	2,870	23,400	4,400	16,900	11,500
July	3,220	26,600	5,020	21,900	9,740
August	2,840	29,400	4,540	26,400	8,040
September	3,360	32,800	3,940	30,400	7,460
October	3,400	36,200	3,790	34,200	7,070
November	3,700	39,900	3,230	37,400	7,550
December	3,230	43,100	3,290	40,700	7,490

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

²Excludes byproduct ores and iron metallica.

³Includes rail and vessel.

TABLE 2
U.S. PRODUCTION OF PIG IRON AND RAW STEEL, BY TYPE OF FURNACE¹

(Thousand metric tons)

Period	Pig iron production, blast furnace		Raw steel production			
	Monthly	Year to date	Basic oxygen furnace		Electric furnace	
			Monthly	Year to date	Monthly	Year to date
2014, December	2,860	32,600	2,490	29,700	4,350	55,200
2015:						
January	2,760	2,760	2,380	2,380	4,500	4,500
February	2,310	5,070	1,980	4,370	3,870	8,370
March	2,390	7,460	1,990	6,360	4,050	12,400
April	2,330	9,790	1,990	8,340	4,080	16,500
May	2,530	12,300	2,180	10,500	4,310	20,800
June	2,670	15,000	2,340	12,900	4,180	25,000
July	2,830	17,800	2,460	15,300	4,200	29,200
August	2,690	20,500	2,330	17,600	4,240	33,400
September	2,390	22,900	2,090	19,700	4,170	37,600
October	2,270	25,200	1,990	21,700	4,270	41,900
November	2,120	27,300	1,780	23,500	3,710	45,600
December	2,110	29,400	1,930	25,400	3,860	49,400

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

Source: American Iron and Steel Institute.

TABLE 3
U.S. EXPORTS OF IRON ORE, BY COUNTRY AND TYPE ^{1,2}
(Exclusive of ore containing 20% or more manganese)

Country and type of product	2014	December		2015	January–December	
	January–December	Thousand metric tons	Value ³ (thousand dollars)	Thousand metric tons	Value ³ (thousand dollars)	Value ³ (dollars per ton)
	Thousand metric tons					
Canada	8,630	431	\$33,400	6,220	\$539,000	\$86.65
China	1,690	256	8,960	781	27,400	35.11
Mexico	1,600	19	2,260	522	38,400	73.53
Other	200	(4)	11	113	7,720	68.28
Total	12,100	706	44,600	7,640	612,000	80.21
Concentrates	1,460	(4)	20	98	12,000	122.13
Fine ores	171	(4)	6	16	1,850	115.38
Pellets	9,630	706	44,600	7,030	570,000	81.05
Other	858	(4)	30	493	29,100	58.98
Total	12,100	706	44,600	7,640	612,000	80.21

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

²All countries with less than 5,000 metric tons of exports per month included in "Other."

³Free alongside ship (FAS) value.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE, BY COUNTRY AND TYPE ^{1,2}
(Exclusive of ore containing 20% or more manganese)

Country of origin and type of product	2014	December		2015	January–December	
	January–December	Thousand metric tons	Value ³ (thousand dollars)	Thousand metric tons	Value ³ (thousand dollars)	Value ³ (dollars per ton)
	Thousand metric tons					
Argentina	98	36	\$2,900	132	\$10,600	\$80.66
Brazil	1,730	51	1,870	2,050	159,000	77.59
Canada	2,860	262	32,300	2,040	257,000	126.01
Honduras	--	6	2,590	6	2,590	431.33
South Africa	29	27	2,130	87	8,850	101.69
Sweden	154	22	1,480	85	6,420	75.58
Other	227	1	22	50	10,700	214.34
Total	5,100	405	43,300	4,550	455,000	100.03
Concentrates	731	163	9,350	1,020	53,500	52.25
Fine ores	421	64	6,990	247	18,700	75.77
Pellets	3,870	177	27,000	3,220	379,000	117.45
Other	71	--	--	54	4,230	78.24
Total	5,100	405	43,300	4,550	455,000	100.03

-- Zero.

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

²All countries with less than 5,000 metric tons of imports per month included in "Other."

³Customs value. Excludes international freight and insurance charges.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE, BY CUSTOMS DISTRICT^{1,2}
(Exclusive of ore containing 20% or more manganese)

(Thousand metric tons)

Customs district (code no.)	Pellets			Total, all products		
	January–December		December	January–December		December
	2014	2015	2015	2014	2015	2015
Chicago, IL (39)	158	13	--	947	976	163
Cleveland, OH (41)	896	1,130	177	896	1,130	177
New Orleans, LA (20)	2,280	1,720	--	2,650	2,010	64
Other	537	361	--	611	439	1
Total	3,870	3,220	177	5,100	4,550	405

-- Zero.

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

²Customs Districts with less than 5,000 metric tons of imports per month included in "Other."

Source: U.S. Census Bureau.