

Mineral Industry Surveys

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IRON ORE IN MARCH 2016

U.S. mine production and shipments of iron ore in March 2016 were 2.85 million metric tons (Mt) and 1.31 Mt, respectively (fig. 1, table 1). Average daily production of iron ore was 92,000 metric tons (t), 12% less than that of February and 38% less than that of March 2015. Average daily shipments of iron ore were 42,400 t, more than 10 times those in February, and almost double those in March 2015. Reduced shipments in February were the result of seasonal conditions on the Great Lakes that limited shipping. Mine stocks at the end of March 2016 were 14% greater than those held at the end of February and 11% less than those held at the end of March 2015.

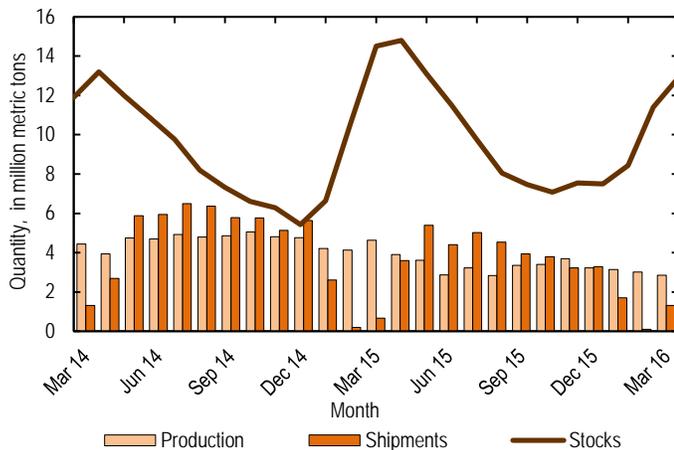


Figure 1. Monthly domestic production, shipments, and stocks of iron ore from March 2014 through March 2016.

As of March 2016, five open-pit mines and collocated pellet plants, one tailings reclamation operation, and two iron metalics facilities were operating. One iron ore mine was expected to reopen by May 15, 2016, and another was expected to reopen later in the year. Three mines remained idled indefinitely. One iron metalics plant and its dedicated iron ore mine were expected to remain idle through May 2017.

Monthly iron ore data are reported as gross weight unless otherwise noted and do not include iron metalics such as pig

iron, direct-reduced iron, hot-briquetted iron, or iron nuggets. Data for iron metalics can be found in the Iron Ore chapter in the United States Geological Survey Minerals Yearbook, volume I, Metals and minerals.

U.S. exports of iron ore totaled 170,000 t in March 2016, 60% greater than those in February and 28% less than those in March 2015. U.S. imports of iron ore totaled 359,000 t in March 2016, almost quadruple those in February and 33% greater than those in March 2015 (fig. 2). U.S. imports and exports were affected during the winter months, when the closure of the Soo Locks and freezing on the Great Lakes caused imports and exports to decline from levels seen during the rest of the year.

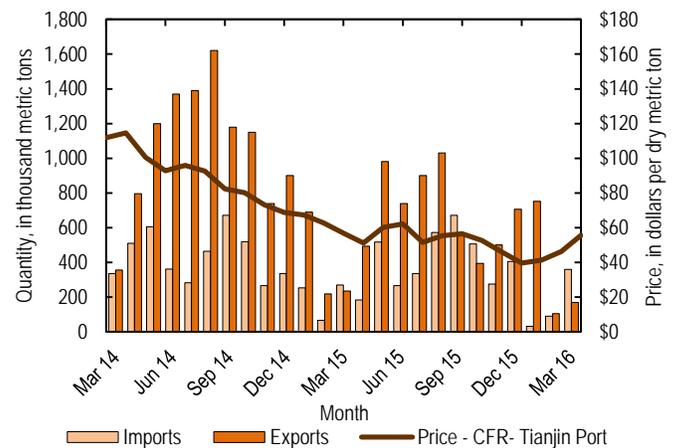


Figure 2. Monthly domestic imports and exports of iron ore and spot prices for iron ore import fines, 62% iron content CFR, at Tianjin Port, from March 2014 through March 2016. Source: U.S. Census Bureau and Index Mundi, undated.

Industry News

Cliffs Natural Resources Inc. announced that it would restart its Northshore Mine operation by May 15, 2016, owing to increased domestic demand for iron ore pellets. The 6-million-metric-ton-per-year (Mt/yr) mine produced 4.3 Mt of iron ore pellets in 2015. Company officials cited preliminary duties on and open trade cases against steel imports for increased

domestic steel production. Approximately 540 employees were expected to be recalled in order to resume regular operations of the mine and pellet plant. The facility was also expected to begin production of pellets of grade sufficient to supply direct-reduced-iron facilities. Cliffs' expected to produce 16 Mt of domestic iron ore in 2016 (Cliffs Natural Resources, Inc., 2016).

Essar Steel Minnesota LLC was reportedly preparing to declare bankruptcy and restructure its debt. Its uncompleted mining operation was designed to produce 7 Mt/yr of iron ore pellets and had been expected to begin operations in the second half of 2016, but its eventual completion is in question (Myers, 2016.)

In Brazil, Samarco Mineração S.A.'s mine (a 50–50 joint venture between BHP Billiton Ltd. and Vale S.A.) was expected to reopen by November 2016. Operations halted following a late 2015 dam burst at a tailings pond that released mud into nearby waterways, killing 17 people and creating an environmental disaster. Upon restarting operations, production would be reduced to 19 Mt/yr of iron ore pellets, from 30 Mt/yr. The company announced that it would pay \$6.2 billion in damages for the environmental, property, and other damages that resulted from the dam burst (Sonawane, 2016).

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References Cited

- Cliffs Natural Resources Inc., 2016, Cliffs Natural Resources Inc. to restart production at Northshore Mine in Minnesota: Cleveland, OH, Cliffs Natural Resources Inc. press release, March 14. (Accessed May 26, 2016, at <http://www.cliffsnaturalresources.com/English/news-center/news-releases/news-releases-details/2016/Cliffs-Natural-Resources-Inc-to-Restart-Production-at-Northshore-Mine-in-Minnesota/default.aspx>.)
- Myers, John, 2016, Essar Steel Minnesota heads toward bankruptcy: Duluth [MN] News Tribune, March 27. (Accessed May 26, 2016, at <http://www.duluthnewstribune.com/business/3995934-essar-steel-minnesota-heads-toward-bankruptcy>.)
- Sonawane, Vishakha, 2016, BHP-Vale's Samarco planning to reopen iron ore mining sister in Brazil before first anniversary of dam disaster: International Business Times, March 11. (Accessed May 26, 2016, at <http://www.ibtimes.com/bhp-vales-samarco-planning-reopen-iron-ore-mining-site-brazil-first-anniversary-dam-2334549>.)

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
2015:					
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
2016:					
January	3,150	3,150	1,700	1,700	8,440
February	3,020	6,160	106	1,810	11,400
March	2,850	9,010	1,310	3,120	12,900

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

²Excludes byproduct ores and iron metallics.

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
2015:						
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
2016:						
January	2,200	2,200	1,910	1,910	4,250	4,250
February	2,260	4,460	2,010	3,920	4,170	8,420
March	2,380	6,840	2,040	5,960	4,390	12,800

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	2015			2016		
	January–March	March		January–March		
	Thousand metric tons	Thousand metric tons	Value ³ (thousand dollars)	Thousand metric tons	Value ³ (thousand dollars)	Value ³ (dollars per ton)
Canada	962	169	\$13,200	1,030	\$84,800	\$82.54
Other	182	1	65	1	222	222.00
Total	1,140	170	13,300	1,030	85,000	82.68
Concentrates	17	(4)	25	(4)	62	15.50
Fine ores	(4)	(4)	23	(4)	49	12.25
Pellets	969	169	13,200	1,030	84,800	82.53
Other	158	(4)	22	(4)	121	30.25
Total	1,140	170	13,300	1,030	85,000	82.68

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	2015			2016		
	January–March	March		January–March		
	Thousand metric tons	Thousand metric tons	Value ³ (thousand dollars)	Thousand metric tons	Value ³ (thousand dollars)	Value ³ (dollars per ton)
Brazil	110	274	\$22,000	339	\$27,200	\$80.18
Canada	391	36	1,950	62	3,120	50.27
Chile	30	49	2,620	54	2,940	54.41
Other	61	(4)	24	26	8,240	317.04
Total	590	359	26,500	481	41,500	86.23
Concentrates	31	85	4,560	92	4,950	53.84
Pellets	498	274	22,000	339	27,200	80.17
Other	62	(4)	29	50	9,350	186.98
Total	590	359	26,500	481	41,500	86.23

-- 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.

⁴Less than ½ unit.

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–March		March	January–March		March
	2015	2016	2016	2015	2016	2016
Chicago, IL (39)	--	--	--	--	62	36
Minneapolis, MN (35)	--	--	--	--	1	--
New Orleans, LA (20)	183	339	274	264	417	323
Other	316	--	--	326	2	1
Total	498	339	274	590	481	359

-- 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.