

# Mineral Industry Surveys

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## IRON ORE IN OCTOBER 2006

U.S. mine production of iron ore in October 2006, on a daily average basis, was 7% less than that of the revised figure for the prior month, according to the U.S. Geological Survey. Average daily production, at 143,000 metric tons per day (t/d), was 11,000 t/d less than that of September 2006.

Average daily shipments in October 2006, at 142,000 t/d, were 19% less than those of September. Mine stocks at the end of October were 24,000 metric tons (t) more than the revised figure for stocks held on September 30, a slight increase.

U.S. imports of iron ore in September 2006 were 38% greater than exports, with imports exceeding exports by 294,000 t.

**Price.**—According to an industry analyst, Chinese sources were indicating an expected drop in iron ore prices of 5% for the coming contract year—April 2007 through March 2008. Meanwhile, a representative of Brazil's Companhia Vale do Rio Doce—the world's leading iron ore producer—countered by suggesting prices could rise 40%. Most analysts indicated that a price increase of between 5% and 10% was more likely ([newratings.com](http://newratings.com), 2006§<sup>1</sup>).

**Exploration and Development.**—Sphere Investments Limited reported a major increase in iron ore resource at the Guelb el Aouj iron ore project in Mauritania (See Iron Ore in November 2004.). Sphere announced a 56% increase in its resource estimate for the East Deposit from 450 million metric tons (Mt) in October, 2005, to the current 701 Mt. The resource classification has also been upgraded from inferred to measured, indicated, and inferred according to the Australasian Joint Ore Reserves Committee (JORC) ore reserve classification system (Sphere Investments Limited, 2006).

MMX Mineração e Metálicos S.A. announced plans to invest \$3.6 billion in iron-related projects over the next several years and to produce 37 million metric tons per year (Mt/yr) of iron ore by 2011. MMX anticipated production from three mines with separate transport and shipping systems. One mine opened near Corumbá in Mato Grosso do Sul State, another in Amapá

State planned to begin shipments in early 2007, and the third, the largest capacity operation, Serra do Sapo Mine, was planned for Minas Gerais State (Skillings Mining Review, 2006).

**World Production.**—An Iranian official announced plans to export 3 Mt of iron ore by the first quarter of 2007. The country expected to increase production by 20% in the next year with a long term goal of producing 44 Mt/yr by 2010 (Metal Bulletin, 2006).

**Domestic Environmental Issues.**—Cleveland-Cliffs Inc. signed an agreement with the State of Michigan, settling the company's responsibility for Deer Lake cleanup. The Michigan Department of Environmental Quality had defined several possible sources of mercury contamination in the lake including atmospheric deposition, mercury wastes used to process ore at a former gold mine, and former Cliffs laboratory testing procedures. Cliffs reported that it had already spent more than \$1 million on investigations and remedial programs at Deer Lake. Cliffs will be responsible for maintaining present mercury levels and monitoring and addressing sources of the lake's mercury. Cliffs indicated that values of properties, easements, and rights of way to be turned over to the State would total millions of dollars (Eggleston, 2006§).

## References Cited

- Metal Bulletin, 2006, Imidro allocates 3 million tonnes of iron ore for export: Metal Bulletin, no. 8967, October 23, p. 25.  
Skillings Mining Review, 2006, MMX planning \$3.6 billion investment in Brazilian iron ore mines: Skillings Mining Review, v. 95, no. 11, November, p. 8.  
Sphere Investments Limited, 2006, Resource Upgrade at Guelb el Aouj East Deposit: Australian Stock Exchange announcement, October 16, 6 p.

## Internet References Cited

- Eggleston, Sam, 2006 (October 31), CCI reaches Deer Lake deal, Ishpeming, MI, accessed November 1, 2006, via URL <http://www.miningjournal.net>.  
[newratings.com](http://newratings.com), 2006 (October 30), JPMorgan positive on iron price rise, accessed January 24, 2007, via URL <http://www.newratings.com>.

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<sup>1</sup>References that include a section mark (§) are found in the Internet References Cited section.

TABLE 1  
U.S. PRODUCTION AND SHIPMENTS OF IRON ORE<sup>1,2</sup>  
(Exclusive of ore containing 5% or more of manganese)

(Thousand metric tons)

Period	Production		Shipments	
	Monthly	Year to date	Monthly	Year to date
2005:				
October	4,480	45,400	5,190	42,600
November	4,740	50,200	4,330	46,900
December	4,380	54,500	4,880	51,800
2006:				
January	4,600	4,600	3,600	3,600
February	3,820	8,420	953	4,550
March	4,600	13,000	2,330	6,880
April	4,220	17,200	5,020	11,900
May	4,750	22,000	5,020	16,900
June	4,450	26,400	5,120	22,000
July	4,710	31,100	5,490	27,500
August	4,780	35,900	5,370	32,900
September	4,610 <sup>r</sup>	40,500 <sup>r</sup>	5,280	38,200
October	4,440	45,000	4,420	42,600

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Excludes byproduct ores.

TABLE 2  
U.S. PRODUCTION, SHIPMENTS, AND STOCKS OF IRON ORE IN OCTOBER<sup>1,2</sup>

(Thousand metric tons)

State	Production		Shipments <sup>3</sup>		Stocks <sup>4</sup>	
	2006	2005	2006	2005	2006	2005
Michigan	1,120	1,130	1,110	1,230	2,050	1,630
Minnesota	3,320	3,340	3,310	3,960	6,060	4,210
Total	4,440	4,480	4,420	5,190	8,120	5,840

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

<sup>2</sup>Excludes byproduct ore.

<sup>3</sup>Includes rail and vessel.

<sup>4</sup>Includes usable (marketable) material at mines, concentrators, pelletizing plants, and loading docks. Excludes stocks of crude ore at mine and concentrates at agglomerating complexes.

TABLE 3  
CANADA: SHIPMENTS OF IRON ORE<sup>1,2</sup>

(Thousand dry metric tons)

Period	Newfoundland and Labrador	Quebec	British Columbia	Total
2005:				
September	1,800	1,160	9	2,960
October	2,000	927	10	2,930
November	1,920	1,320	10	3,250
December	1,900	1,130	9	3,040
Year total	19,100	10,900	106	30,100
2006:				
January	1,010	705	10	1,720
February	951	730	10	1,690
March	1,210	730	7	1,950
April	1,850	1,180	8	3,030
May	1,670	1,610	12	3,280
June	1,550	1,180	10	2,740
July	2,040	1,220	8	3,270
August	1,740	1,740	8	3,490
September	949	1,340	8	2,300

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

<sup>2</sup>Includes production from steel plant waste oxides.

Source: Natural Resources Canada.

TABLE 4  
PRODUCTION OF PIG IRON AND RAW STEEL IN THE UNITED STATES, BY TYPE OF  
FURNACE<sup>1</sup>

(Thousand metric tons)

Period	Pig iron production, blast furnace		Raw steel production			
	Monthly	Year to date	Basic oxygen furnace <sup>2</sup>		Electric furnace	
			Monthly	Year to date	Monthly	Year to date
2005:						
September	2,840	27,500	3,330	31,000	4,440	38,400
October	2,940	30,500	3,470	34,500	4,810	43,200
November	3,000	33,500	3,170	37,700	4,660	47,800
December	2,840	36,300	3,380	41,000	4,420	52,300
2006:						
January	3,190	3,190	3,560	3,560	4,530	4,530
February	3,100	6,300	3,470	7,030	4,250	8,780
March	3,420	9,710	3,800	10,800	5,070	13,900
April	3,280	13,000	3,640	14,500	4,870	18,700
May	3,460	16,500	3,850	18,300	5,060	23,800
June	3,330	19,800	3,790	22,100	4,790	28,600
July	3,210	23,000	3,660	25,800	4,800	33,400
August	3,200	26,200	3,620	29,400	4,840	38,200
September	3,220	29,400	3,670	33,100	4,750	43,000

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

<sup>2</sup>Raw steel production figures for the basic oxygen process are usually greater than the corresponding pig iron production figures because scrap is routinely melted in the basic oxygen furnace together with the molten pig iron.

Source: American Iron and Steel Institute.

TABLE 5  
U.S. EXPORTS OF IRON ORE, BY COUNTRY OF DESTINATION AND TYPE<sup>1,2</sup>

(Thousand metric tons)

Country of destination and type of product	2005	2006				
		1st quarter	2nd quarter	July	August	September
Algeria	--	--	--	100	102	50
Canada	11,200	998	2,370	705	998	706
China	282	--	100	--	--	--
Mexico	30	13	11	(3)	(3)	10
Slovakia	237	--	--	--	--	--
United Kingdom	78	--	--	--	--	--
Other	8	1	5	1	--	1
Total	11,800	1,010	2,480	806	1,100	767
Pellets	11,600	925	2,420	800	1,090	754
Concentrates	89	2	53	(3)	1	1
Direct shipping ores	60	2	8	4	6	10
Other	11	83	6	2	2	3
Total	11,800	1,010	2,480	806	1,100	767

-- Zero.

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

<sup>2</sup>Includes agglomerates.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE, BY COUNTRY AND TYPE<sup>1,2</sup>  
(Exclusive of ore containing 20% or more manganese)

Country of origin and type of product	2006					2005
	September		Year to date			January-September
	Thousand metric tons	Value <sup>3</sup> (thousand dollars)	Thousand metric tons	Value <sup>3</sup> (thousand dollars)	Value <sup>3</sup> (dollars per ton)	Thousand metric tons
Bahamas, The	--	--	--	--	--	140
Brazil	455	25,500	3,430	173,000	50.45	3,130
Canada	589	34,700	4,640	269,000	57.83	5,140
Chile	--	--	238	11,500	48.30	221
Greece	--	--	15	386	25.00	13
Mexico	2	41	11	274	25.45	37
Peru	1	27	39	1,230	31.68	32
Russia	--	--	--	--	--	99
Sweden	--	--	(4)	6	342.88	16
Trinidad and Tobago	15	965	299	6,870	22.97	375
Venezuela	--	--	23	439	19.50	147
Other	--	--	14	373	220.21	18
Total	1,060	61,200	8,710	463,000	53.10	9,370
Concentrates	135	5,380	1,730	68,300	39.43	793
Coarse ores	--	--	--	--	--	21
Fine ores	176	9,030	2,070	88,600	42.85	3,590
Pellets	748	46,700	4,900	305,000	62.35	4,890
Other agglomerates	2	41	11	274	24.91	70
Roasted pyrites	1	27	7	259	37.00	7
Total	1,060	61,200	8,710	463,000	53.10	9,370

-- Zero.

<sup>1</sup>Data, with the exception of the dollars per ton column, are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes agglomerates.

<sup>3</sup>Customs value. Excludes international freight and insurance charges.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE IN SEPTEMBER 2006<sup>1,2</sup>  
(Exclusive of ore containing 20% or more manganese)

(Thousand metric tons)

Country of origin	Type of product						Total
	Concentrates	Coarse ores	Fine ores	Pellets	Briquettes and other agglomerates	Roasted pyrites	
Brazil	79	--	142	233	--	--	455
Canada	56	--	34	499	--	--	589
Mexico	--	--	--	--	2	--	2
Peru	--	--	--	--	--	1	1
Trinidad and Tobago	--	--	--	15	--	--	15
Total	135	--	176	748	2	1	1,060

-- Zero.

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

<sup>2</sup>Includes agglomerates.

Source: U.S. Census Bureau.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF PELLETS, BY COUNTRY<sup>1</sup>

Country of origin	2006					2005
	August		Year to date			January-September
	Thousand metric tons	Value <sup>2</sup> (thousand dollars)	Thousand metric tons	Value <sup>2</sup> (thousand dollars)	Value <sup>2</sup> (dollars per ton)	Thousand metric tons
Brazil	233	16,000	1,290	84,200	65.31	1,510
Canada	499	29,800	3,570	220,000	61.55	3,280
Russia	--	--	--	--	--	99
Trinidad and Tobago	15	965	15	965	63.50	--
Venezuela	--	--	23	439	19.50 <sup>r</sup>	--
Total	748	46,700	4,900	305,000	62.35	4,890

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data, with the exception of the dollars per ton column, are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Customs value. Excludes international freight and insurance charges.

Source: U.S. Census Bureau.

TABLE 9  
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE,  
BY CUSTOMS DISTRICT<sup>1,2</sup>  
(Exclusive of ore containing 20% or more manganese)

(Thousand metric tons)

Customs district (code no.)	September	January-September	
	2006	2006	2005
Baltimore, MD (13)	229	3,010	2,500
Buffalo, NY (09)	--	(3)	6
Charleston, SC (16)	1	1	1
Chicago, IL (39)	227	1,130	1,090
Cleveland, OH (41)	347	2,200	2,060
Detroit, MI (38)	--	102	180
Great Falls, MT (33)	--	--	(3)
Houston-Galveston, TX (53)	--	50	36
Los Angeles, CA (27)	--	(3)	(3)
Mobile, AL (19)	--	5	63
New Orleans, LA (20)	255	2,190	3,400
New York City, NY (10)	--	--	1
Nogales, AZ (26)	2	18	14
Ogdensburg, NY (07)	--	(3)	(3)
Philadelphia, PA (11)	--	6	22
San Francisco, CA (28)	--	--	4
San Juan, PR (49)	--	--	6
St. Louis, MO (45)	--	(3)	--
Total	1,060	8,710	9,370

-- Zero.

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

<sup>2</sup>Includes agglomerates.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 10  
U.S. IMPORTS FOR CONSUMPTION OF PELLETS,  
BY CUSTOMS DISTRICT<sup>1</sup>

(Thousand metric tons)

Customs district (code no.)	September	January-September	
	2006	2006	2005
Baltimore, MD (13)	87	1,230	1,090
Chicago, IL (39)	92	157	53
Cleveland, OH (41)	347	2,200	2,060
Detroit, MI (38)	--	102	180
Houston-Galveston, TX (53)	--	35	36
Mobile, AL (19)	--	--	61
New Orleans, LA (20)	222	1,180	1,410
Total	748	4,900	4,890

-- Zero.

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

Source: U.S. Census Bureau.