

# Mineral Industry Surveys

## For information, contact:

John D. Jorgenson, Iron Ore Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4912, Fax: (703) 648-7757  
E-mail: [jjorgenson@usgs.gov](mailto:jjorgenson@usgs.gov)

Amy Tolcin (Data)  
Telephone: (703) 648-7978  
Fax: (703) 648-7975  
E-mail: [atolcin@usgs.gov](mailto:atolcin@usgs.gov)

**Internet:** <http://minerals.usgs.gov/minerals>

## IRON ORE IN JANUARY 2005

U.S. mine production of iron ore in January 2005, on a daily average basis, was less than 1% lower than that of the prior month, according to the U.S. Geological Survey. Average daily production was 143,000 metric tons per day (t/d), 900 t/d less than the figure for December 2004.

Shipments in January 2005, on a daily basis, were 35% lower compared with those of December 2004, owing to the closing of the shipping season in mid-month. Mine stocks at the end of January were 1.07 million metric tons (Mt) greater than the corresponding stock figures on December 31, 2004.

U.S. imports of iron ore in December 2004 were three times exports, with imports exceeding exports by 983,000 metric tons (t). U.S. imports of iron ore in 2004 exceeded exports by 40%, with imports exceeding exports by 3.4 Mt.

Note: Former Table 4—"Consumption and Stocks of Iron Ore and Blast Furnace Production of Hot Metal at U.S. Iron and Steel Plants" has been revised owing to lack of industry information. It is now titled "Production of Pig Iron and Raw Steel in the United States, By Type of Furnace."

**Prices.**—According to reports, latest indications are that world prices for iron ore will increase significantly in the coming contract year (April 2005-April 2006). Several price agreements have already been reached between leading iron ore exporters and major steelmakers that contain price increases greater than 70%. Companhia Vale do Rio Doce (CVRD) first negotiated significant price increases with their Asian customers and then signed similar contracts with Arcelor Group in Europe (Samor and Glader, 2005).

One of the first price agreements to be announced was between CVRD and Nippon Steel Corporation. Deliveries for the contract year beginning April 1 for Carajas and Southern System iron ore fines free-on-board (fob) their respective ports were increased 71.5% relative to those of 2004 (Companhia Vale do Rio Doce, 2005§<sup>1</sup>).

Rio Tinto Limited subsequently concluded its negotiations with Nippon Steel for the contract year beginning April 1. Lump ore, fine ore, and Yandi ore were all increased by 71.5%

on a cents-per-dry-metric-ton-unit basis (Rio Tinto Limited, 2005§).

Other major steelmakers quickly, but grudgingly, signed similar agreements that contained significant price increases with CVRD and Rio Tinto. Surprisingly little news on BHP Billiton Limited's (BHPB) negotiations was available, although reports indicate BHPB is requesting yet higher increases than either Rio Tinto or CVRD (Bell, 2005§).

**Exploration and Development.**—Strong demand continued to drive the intense interest in iron ore project development. Palladon Ventures Ltd. announced completion of a preliminary scoping study for the Comstock/Mountain Lion Iron Project in Iron County, UT. An update of existing feasibility studies to provide current costs was performed. The study evaluated 10 scenarios for development and concluded that the property value was in excess of the \$10 million purchase consideration (Palladon Ventures Ltd., 2005§). In the past, these properties were an important source of ore for Geneva Steel Company's plant near Orem.

Grange Resources Ltd. announced plans to prepare an A\$13 million feasibility study on its Southdown Project in Western Australia. This magnetite iron ore project is approximately 90 kilometers northeast of Albany. Initial plans envisioned ore shipments from the Port of Albany to a yet-to-be-constructed pelletizing plant in Southeast Asia. A scoping study indicated operating costs in the range of US\$32/t fob pelletizing plant and project costs for the mine and pelletizing plant of about US\$640 million (MineBox, 2005b§).

Bolivia planned to submit the El Mutun iron ore deposit near Puerto Suarez to international auction in March. The site, close to the Brazilian border, has proven reserves of 175 Mt averaging 67% iron content and an "estimated" reserve of 40 billion metric tons (Gt) of primary ore (Kinch, 2005).

Admiralty Resources NL (Australia) announced that it signed a contract to purchase a 50% interest in Compañía Minera Santa Barbara (Chile). Santa Barbara has nine properties with inferred iron ore mineral resources totaling 41 Mt. A proven ore reserve was being prepared based on the results of 92 drill holes and 211 samples (MineBox, 2005a§).

Reports indicated China may invest \$480 million to explore North Korea's Musan iron ore deposit. Musan has resources of

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

7 Gt with some ore containing 66% iron. Plans were to develop reserves sufficient to support a 7 million-metric-ton-per-year (Mt/yr) steel plant (Skillings Mining Review, 2005).

**Domestic Update.**—Cleveland-Cliffs Inc.'s original bid of A\$3.40 per share for Portman Limited shares, which was equivalent to US\$465 million, met resistance with shareholders, as outside sources bought shares at a higher price. Increased prices of iron ore (see Prices) have fueled this resistance, although no new bidders have presented themselves. Cliffs has since raised its offer to A\$3.85 per share and has extended its offer date through March 18. All but one of Portman's directors have recommended that shareholders accept the offer; the remaining director recommended that shareholders accept the offer only if Cliffs obtains 51% of the shares (Portman Limited, 2005§; Kohler, 2005§).

In February 2005, the Governor of Minnesota reaffirmed his administration's commitment to such Iron Range economic development projects as steelmaking by Minnesota Steel & Iron in Nashwauk and the Mesabi Nugget project at Silver Bay. The local press reported that \$49 million, or most of the seed money for these projects, had been removed from the 21<sup>st</sup> Century Minerals Fund to help resolve State deficit problems (Hanna, 2005§).

**World Production Update.**—On March 1, Ivanhoe Mines Ltd. (Singapore) announced completion of the sale of its Savage River Mine—a complex consisting of iron ore mining, pelletizing, and shipping facilities in Tasmania, Australia. The purchaser, Stemcor Holdings Limited (England), has agreed to pay Ivanhoe US\$21.5 million plus annual payments for the next 5 years based on a formula related to the Nibrasco/Japan Steel Mills pellet price for the 1.8 Mt/yr sales of pellets (Ivanhoe Mines Ltd., 2005§).

It was reported that Brazil's Department for Economic Rights (SDE), part of the Justice Ministry, recommended restrictions on acquisitions by CVRD. SDE recommended that CVRD sell part of MRS Logística, S.A. railways, part of its holdings in the Port of Septiba, and Capao Xavier, a recently opened iron ore mine. The Conselho Administrativo de Defesa Economica (CADE) was expected to rule on these recommendations within 60 days. CADE is Brazil's main antitrust organization and also part of the Justice Ministry (Mining Bulletin, 2005a; Mining Journal, 2005b).

China reportedly planned to institute an iron ore import license system in March 2005. The new system appeared to be designed to curb speculative trading of iron ore, reduce market access to smaller, less efficient steel producers, and better organize the country's shipping requirements (Australasian Investment Review, 2005§). According to the Mining Journal, China imported 210 Mt of iron ore in 2004, an increase of 40% over that of the previous year.

**Transportation.**—India announced a dual rail freight policy for iron ore. Companies transporting iron ore by rail to ports for export will be charged double the rate for iron ore being transported to domestic steel manufacturers (Hindu Business Line, The, 2005§).

BHPB asked the Australian Federal Court to review the National Competition Council's decision giving competitors access to part of the BHPB rail network in Western Australia's

Pilbara region (Mining Journal, 2005a).

In South Africa, a second shiploader was expected to be operational at the Saldhana Port at the end of January. The new shiploader would boost the port's export capacity to 32 Mt/yr. A second rail car tippler was expected to be available by April. Saldanha's tipping capacity could reach 50 Mt/yr within 6 months of commissioning of the new tippie (Metal Bulletin, 2005b).

The Mining Journal recently reported that the freight differential to Asian ports from Brazil as compared with Australia grew to US\$18/t. This has resulted in a delivered price, pre-2005-06 contract, of US\$38/t including cost, insurance, and freight (cif) from Australia versus a Brazilian price of US\$54/t cif (Thomas, 2005).

## References Cited

- Kinch, Diana, 2005, Bolivia to try El Mutun iron ore auction again in March: Metal Bulletin, no. 8876, January 17, p. 22.  
Metal Bulletin, 2005a, CVRD anti-trust poser: Metal Bulletin, no. 8877, January 24, p. 33.  
Metal Bulletin, 2005b, Saldanha terminal expansion begins: Metal Bulletin, no. 8877, January 24, p. 18.  
Mining Journal, 2005a, BHPB rail review: Mining Journal, January 14, p. 3.  
Mining Journal, 2005b, CVRD under scrutiny: Mining Journal, January 21, p. 17.  
Samor, Geraldo, and Glader, Paul, 2005, Top iron-ore firm sets stage for costlier steel world-wide: Wall Street Journal, February 23, p. A2, A14.  
Skillings Mining Review, 2005, China may explore for iron ore in North Korea: Skillings Mining Review, v. 94, no. 3, March, p. 26.  
Thomas, Andrew, 2005, Leveling the playing field: Mining Journal, February 4, p. 2.

## Internet References Cited

- Australasian Investment Review, 2005 (February 23), China—organizing the iron ore import anarchy, accessed February 25, 2005, via URL <http://www.aireview.com>.  
Bell, Stephen, 2005 (March 4), BHP wants premium iron ore price, talks continue, Dow Jones Newswires, accessed March 7, 2005, via URL <http://money.iwon.com/jsp>.  
Companhia Vale do Rio Doce, 2005 (February 22), 2005 iron ore prices, accessed March 4, 2005, via URL <http://www.cvr.com.br>.  
Hanna, Bill, 2005 (February 26), Pawlenty visits the Range, Mesabi Daily News, accessed February 28, 2005, via URL <http://www.virginiamn.com>.  
Hindu Business Line, The, 2005 (February 26), Tariff on iron ore for export doubled, accessed February 28, 2005, via URL <http://www.thehindubusinessline.com>.  
Ivanhoe Mines Ltd., 2005 (March 1), Ivanhoe Mines completes sale of Australian iron mine, accessed March 14, 2005, via URL <http://www.ivanhoe-mines.com>.  
Kohler, Alan, 2005 (March 2), Portman plays easy to get while iron ore's not, The Sydney Morning Herald, accessed March 4, 2005, via URL <http://www.smh.com.au/news>.  
MineBox, 2005a (February 24), Admiralty buys into Chile, accessed February 24, 2005, via URL <http://www.minebox.com>.  
MineBox, 2005b (February 2), Magnetite BFS for WA's SW, accessed February 2, 2005, via URL <http://www.minebox.com>.  
Palladon Ventures Ltd., 2005 (March 10), Palladon Ventures Ltd. completes scoping study on iron ore project, accessed March 11, 2005, via URL <http://www.palladonmining.com>.  
Portman Limited, 2005 (February 25), Increase in takeover offer from Cleveland-Cliffs Australia Pty Ltd, accessed March 10, 2005, via URL <http://www1.portman.com.au>.  
Rio Tinto Limited, 2005 (February 23), Iron ore price settlement, accessed March 3, 2005, via URL <http://www.riotinto.com/media>.

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
2004:				
January	4,270	4,270	3,920	3,920
February	4,230	8,500	1,190	5,100
March	4,130	12,600	2,710	7,810
April	4,630	17,300	5,260	13,100
May	4,800	22,100	5,300	18,400
June	4,470	26,500	5,880	24,200
July	4,950	31,500	5,550	29,800
August	4,500	36,000	5,670	35,500
September	4,420	40,400	5,420	40,900
October	5,110	45,500	4,780	45,700
November	4,730	50,200	5,110	50,800
December	4,450	54,700	5,150	55,900
2005:				
January	4,420	4,420	3,350	3,350

<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 JANUARY<sup>1,2</sup>

(Thousand metric tons)

State	Production		Shipments <sup>3</sup>		Stocks <sup>4</sup>	
	2005	2004	2005	2004	2005	2004
Michigan	1,030	876	1,070	1,180	1,420	1,150
Minnesota	3,390	3,400	2,280	2,730	2,640	3,070
Total	4,420	4,270	3,350	3,920	4,060	4,220

<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 mines, plants, and loading docks.

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

(Thousand dry metric tons)

Period	Newfoundland	Quebec	British Columbia		Total
2003:					
December	1,790 <sup>r</sup>	1,060	6		2,860 <sup>r</sup>
Year total	19,900 <sup>r</sup>	13,300	71 <sup>r</sup>		33,300 <sup>r</sup>
2004:					
January	1,150	839	5		1,990
February	1,070	589	7		1,660
March	1,250	1,030	6		2,290
April	1,650	858	5		2,520
May	1,920	1,740	7		3,660
June	1,970	981	8		2,960
July	1,710	1,380	10		3,110
August	698	1,120	8		1,830
September	124	1,220	5		1,350
October	635	1,570	7		2,210
November	1,390	958	10		2,360
December	1,370	944	9		2,330
Year total	14,900	13,200	87		28,300

<sup>r</sup>Revised.

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

Source: Natural Resources Canada.

TABLE 4  
PRODUCTION OF PIG IRON AND RAW STEEL IN THE UNITED STATES, BY TYPE OF FURNACE<sup>1,2,3</sup>

(Thousand metric tons)

Period	Pig iron production		Raw steel production			
	Blast furnace		Basic oxygen furnace <sup>4</sup>		Electric furnace	
	Monthly	Year to date	Monthly	Year to date	Monthly	Year to date
2003:						
December	3,390	39,100	4,010	45,900	3,630	47,800
2004:						
January	3,340	3,340	3,960	3,960	3,900	3,900
February	3,200	6,540	3,630	7,390	4,000	8,020
March	3,650	10,200	4,120	11,500	4,290	12,300
April	3,400	13,600	3,840	15,300	4,230	16,500
May	3,330	17,000	3,750	19,100	4,560	21,100
June	3,300	20,400	3,680	22,900	4,500	25,400
July	3,260	23,700	3,680	26,700	4,640	30,400
August	3,480	27,200	3,830	30,500	4,620	35,100
September	3,460	30,600	3,790	33,500	4,580	40,400
October	3,570	34,200	3,810	36,600	4,850	46,100
November	3,330	36,300	3,690	42,100	4,470	48,600
December	3,080 <sup>r</sup>	40,600 <sup>r</sup>	3,810	45,900	4,310	53,000

<sup>r</sup>Revised.

<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>Inconsistencies in year-to-date figures for pig iron and raw steel production reflect consolidated revisions for previous months.

<sup>4</sup>Raw steel production figures for the basic oxygen process is 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	2004				
	1st quarter	2nd quarter	3rd quarter	November	December
Canada	958	2,860	2,300	710	464
China	59	83	129	--	26
Mexico	1	(3)	1	1	(3)
Slovakia	--	53	134	--	--
Trinidad and Tobago	--	--	29	--	--
Yugoslavia	--	52	--	--	--
Other	1	1	1	(3)	(3)
<b>Total</b>	<b>1,020</b>	<b>3,050</b>	<b>2,590</b>	<b>711</b>	<b>491</b>
Pellets	1,020	2,960	2,420	707	464
Concentrates	2	19	2	(3)	(3)
Direct shipping ores	(3)	65	169	3	26
Other	1	2	(3)	(3)	1
<b>Total</b>	<b>1,020</b>	<b>3,050</b>	<b>2,590</b>	<b>711</b>	<b>491</b>

-- 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 1/2 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	2004					2003
	December		Year to date			January-December
	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
Australia	--	--	(4)	24	54.15	128
Brazil	491	14,600	5,020	140,000	27.97	4,980
Canada	848	27,300	5,830	190,000	32.53	6,970
Chile	47	1,270	244	6,380	26.15	296
Finland	--	--	76	6,190	81.18 <sup>5</sup>	9
Italy	--	--	(4)	5	991.80 <sup>5</sup>	--
Mexico	(4)	4	49	1,220	24.81	24
Norway	--	--	4	148	38.22	4
Paraguay	--	--	1	30	54.15	--
Peru	24	456	56	1,030	18.58	77
South Africa	--	--	104	4,100	39.29	--
Spain	--	--	(4)	3	39.91	--
Sweden	--	--	111	4,520	40.87	88
Uruguay	--	--	(4)	5	2,400.00 <sup>5</sup>	--
Venezuela	64	2,410	262	17,000	64.72 <sup>5</sup>	21
<b>Total</b>	<b>1,470</b>	<b>46,000</b>	<b>11,800</b>	<b>371,000</b>	<b>31.53</b>	<b>12,600</b>
Concentrates	106	2,510	1,060	24,700	23.38	985
Coarse ores	64	2,410	68	2,600	38.10	24
Fine ores	524	13,600	3,230	74,700	23.14	2,320
Pellets	763	26,800	7,270	256,000	35.20	8,790
Briquettes	--	--	56	10,500	188.39	--
Other agglomerates	16	639	75	2,070	27.48	477
Roasted pyrites	1	41	9	373	43.84	7
<b>Total</b>	<b>1,470</b>	<b>46,000</b>	<b>11,800</b>	<b>371,000</b>	<b>31.53</b>	<b>12,600</b>

-- 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 1/2 unit.

<sup>5</sup>May include hot-briquetted iron, direct-reduced iron, or other specialty product.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE IN DECEMBER 2004<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	--	--	204	287	--	--	491
Canada	59	--	297	476	16	--	848
Chile	47	--	--	--	--	--	47
Mexico	--	--	--	--	(3)	--	(3)
Peru	--	--	23	--	--	1	24
Venezuela	--	64	--	--	--	--	64
<b>Total</b>	<b>106</b>	<b>64</b>	<b>524</b>	<b>763</b>	<b>16</b>	<b>1</b>	<b>1,470</b>

-- 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 1/2 unit.

Source: U.S. Census Bureau.

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

Country of origin	2004					2003
	December		Year to date			January-December
	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	287	10,300	2,720	93,100	34.23	2,790
Canada	476	16,500	4,480	157,000	35.02	5,990
Finland	--	--	65	5,740	88.20	--
Total	763	26,800	7,270	256,000	35.20	8,790

-- 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.)	December	January-December	
	2004	2004	2003
Baltimore, MD (13)	363	3,580	3,330
Boston, MA (04)	--	(3)	--
Buffalo, NY (09)	2	9	7
Charleston, SC (16)	1	1	106
Chicago, IL (39)	179	1,450	1,220
Cleveland, OH (41)	269	2,440	3,270
Detroit, MI (38)	27	174	247
Great Falls, MT (33)	--	(3)	--
Houston - Galveston, TX (53)	--	57	72
Laredo, TX (23)	--	8	20
Los Angeles, CA (27)	--	--	(3)
Miami, FL (52)	--	(3)	--
Mobile, AL (19)	--	84	75
New Orleans, LA (20)	634	3,900	4,150
New York City, NY (10)	--	--	(3)
Nogales, AZ (26)	(3)	(3)	--
Ogdensburg, NY (07)	--	--	1
Philadelphia, PA (11)	--	58	82
San Francisco, CA (28)	--	1	--
Tampa, FL (18)	--	--	16
Total	1,470	11,800	12,600

-- 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 1/2 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.)	December	January-December	
	2004	2004	2003
Baltimore, MD (13)	181	1,450	1,280
Charleston, SC (16)	--	--	105
Chicago, IL (39)	--	232	--
Cleveland, OH (41)	269	2,400	3,270
Detroit, MI (38)	27	174	247
Houston-Galveston, TX (53)	--	52	55
Laredo, TX (23)	--	8	20
Mobile, AL (19)	--	--	59
New Orleans, LA (20)	287	2,950	3,750
Total	763	7,270	8,790

-- 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.