

Mineral Industry Surveys

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IRON ORE IN NOVEMBER 2004

During the month of November, cumulative U.S. mine production and shipments for 2004 surpassed full year figures for 2003, according to the U.S. Geological Survey.

U.S. mine production of iron ore in November 2004, on a daily average basis, was more than 4% lower than that of the revised figure for the prior month. Average daily production was 158,000 metric tons per day (t/d), more than 7,000 t/d less than the revised figure for October 2004.

Shipments in November 2004, on a daily basis, were almost 11% higher compared with those of October 2004. Mine stocks at the end of November 2004 were 260,000 metric tons (t) less than the corresponding stock figures at the end of the previous month.

U.S. imports of iron ore in October 2004 were more than double exports, with imports exceeding exports by 574,000 t.

Metals analysts were predicting iron ore price increases of greater than 20% when annual contract negotiations are concluded on April 1, 2005. Exchange rate fluctuations and strong iron ore demand worldwide were expected to strengthen the position of the iron ore producers during the upcoming annual price negotiations (Clarke, 2004; Mining Journal, 2004b).

Exploration and Development.—A keen interest in development of iron ore projects is being driven by continued strong demand for steel. Murchison Metals Limited (Australia) began raising capital to continue work on its Jack Hills prospect. This prospect is located 350 kilometers (km) northeast of Geraldton, Western Australia. Approximately 67 million metric tons (Mt) of inferred resources at 62% iron content are associated with the project (Murchison Metals Ltd, 2004§¹; The Border Mail, 2004§).

The European Investment Bank agreed to lend Sphere Investments Limited (Australia) \$5.5 million to complete its bankable feasibility study of the Guelb el Aouj iron ore project in Mauritania. The \$650 million project would include an 18-million-metric-ton-per-year (Mt/yr) magnetite mine, a

beneficiation plant, and a 7-Mt/yr pellet plant. The project area is estimated to contain sufficient reserves for a mine life of 30 years with production planned to begin in 2010 (Metal Bulletin, 2004a).

The State of Minnesota's Iron Range Resources (IRR) board approved a \$5 million loan to Minnesota Steel Industries LLC (MSI) as part of funds to develop a taconite mine, pelletizing plant, and a direct-reduced-iron steelmaking complex near Nashauk on the Mesabi iron range. MSI's project would provide 700 jobs and require a \$1.7 billion investment to produce 2.4 Mt/yr of hot rolled steel from more than 400 Mt of estimated high-quality iron ore reserves (Bloomquist, 2004§; Ramsey, 2004§).

Domestic Production Update.—Minnesota's Department of Revenue Minerals Tax Office has estimated that taconite production will increase by 14% in 2004 compared with that of 2003 to a total production of almost 40 Mt. This will be the highest annual pellet production for Minnesota since 2000. Industry experts estimate that production in 2005 should exceed that of 2004 by approximately 4% (KARE-11, 2004§).

Cleveland-Cliffs Inc. announced an amendment to a major pellet sales and purchase agreement with International Steel Group Inc. (ISG). The amended agreement raised the base price for pellets and moderated a steel-sharing provision within the agreement for pellet deliveries to ISG Cleveland and ISG Indiana Harbor through 2016 (Cleveland-Cliffs Inc., 2004§).

IRR announced a tax settlement between the State of Minnesota and creditors of National Steel Corp. Of the \$12.4 million owed, slightly over \$10.0 million will be paid for distribution between area property tax relief, an economic production trust fund, and an environmental trust fund (Skillings Mining Review, 2004).

World Production Update.—The United Nations Conference on Trade and Development's (UNCTAD) Trust Fund Project on Iron Ore Information has reported world iron ore statistics for the first half of 2004. UNCTAD's estimate of world iron ore production for the first half of the year was 577 Mt, or 6% greater than that of the same period in 2003. UNCTAD'S estimate of world iron ore exports for the first half of the year was 309 Mt, or 2% greater than that of the same

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

period in 2003 (United Nations Conference on Trade and Development, 2003; 2004).

Portman Limited (Australia) announced that it planned to increase output at its Koolyanobbing Mine to 8 Mt/yr from 5 Mt/yr. The expansion, at an estimated cost of A\$55 million, will involve upgrading crushing and screening capacity, improving the railway to Esperance, and purchasing 140 new rail cars. The expansion was expected to be completed by the end of 2005 (Mining Engineering, 2004).

Companhia Vale do Rio Doce (CVRD) of Brazil was active in 2004, signing supply agreements with firms from China, Japan, the Republic of Korea, and several nations of the European Union. With these new long-term agreements in hand, CVRD was able to seriously pursue financing and expansion plans for its iron ore operations. CVRD and the Japan Bank for International Cooperation signed a cooperation agreement at the end of October that may assist the Brazilian firm in its development plans. CVRD's production for the first 9 months of 2004 was 167 Mt, compared with 149 Mt for the same period in 2003—an increase of more than 12% (Kirk, 2004).

Kumba Resources Limited (South Africa) expected to receive board approval to expand capacity at its Sishen Mine in Northern Cape Province to 38 Mt/yr from its current 28 Mt/yr. The planned \$350 million expansion included processing equipment, using new jiggling technology, to produce two new export grades—a lump ore with 64% iron content and ore fines containing 63.5% iron. Kumba continued negotiations to boost rail capacity from the mine to Saldanha Port. The ongoing expansion of the port was expected to be completed in July 2005 (Swindells, 2004).

Zaporizhstal Integrated Iron & Steel Works JSC, one of the leading industrial enterprises in Ukraine, was forced to shut down two of its blast furnaces on December 7 owing to a dispute with Inguletsky GOK, Ukraine's leading producer of iron ore concentrates. Zaporizhstal refused to pay a 30% price increase and had to reduce capacity while it negotiated with alternative suppliers. Similar price disputes have taken place between other Ukrainian steelmakers and their domestic suppliers of iron ore (Metal Bulletin, 2004b).

An electrical fire at an underground iron ore mine in China's northern Hebei Province resulted in 61 fatalities. The fire is believed to have started in electrical cabling in a complex of four interconnected mines (Mining Journal, 2004a).

Transportation.—On December 16, Iron Ore Company of Canada (IOC) shipped its one billionth metric ton of iron ore. Fifty years ago, IOC shipped its first metric ton of ore over its 418-km railway from the Labrador City Mine. IOC ships approximately 21 Mt/yr through its port facility at Sept-Îles, Quebec (The Telegram, 2004§).

In Venezuela, Orinoco channel levels rose 3 feet toward the end of November to once again allow ship loading operations at Palua and Puerto Ordaz. Although topping off operations are

still necessary for most cargoes, the backlog of shipments was expected to be caught up by yearend (Metal Bulletin, 2004c).

According to Drewry Shipping Consultants Limited, as of mid November 2004, seaborne shipping rates on 100,000 to 150,000 dead-weight-ton shipments of iron ore from Brazil and South Africa to Chinese ports were up 24% and 15%, respectively, from those of the similar period of 2003 (Mining Journal, 2004c).

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

(Thousand metric tons)

Period	Production		Shipments	
	Monthly	Year to date	Monthly	Year to date
2003:				
November	4,140	44,700	4,540	42,700
December	3,740	48,500	5,170	47,900
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 ^r	45,500 ^r	4,780	45,700
November	4,730	50,200	5,110	50,800

^rRevised.

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

²Excludes byproduct ores.

TABLE 2
U.S. PRODUCTION, SHIPMENTS, AND STOCKS OF IRON ORE IN NOVEMBER^{1,2}

(Thousand metric tons)

State	Production		Shipments ³		Stocks ⁴	
	2004	2003	2004	2003	2004 ⁵	2003
Michigan	1,250	1,210	1,240	1,210	1,560 ⁵	1,720
Minnesota	3,480	2,930	3,870	3,330	2,140 ⁵	3,520
Total	4,730	4,140	5,110	4,540	3,700	5,240

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

²Excludes byproduct ore.

³Includes rail and vessel.

⁴Includes mines, plants, and loading docks.

⁵An imbalance of production and shipments compared with stock changes indicates an inventory adjustment at the mines.

TABLE 3
CANADA: SHIPMENTS OF IRON ORE¹

(Thousand dry metric tons)

Period	Newfoundland	Quebec	British Columbia	Total
2003:				
October	2,080	1,500	6	3,580
November	2,260	1,190	5	3,450
December	1,740	1,060	6	2,800
Year total	19,800	13,300	69	33,200
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	1,140	1,570	7	2,720

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

Source: Natural Resources Canada.

TABLE 4
CONSUMPTION AND STOCKS OF IRON ORE AND BLAST FURNACE PRODUCTION OF
HOT METAL AT U.S. IRON AND STEEL PLANTS^{1,2}

(Thousand metric tons)

Consumption by source	Consumption of ores and agglomerates, January ³			
	2004	2003		
United States ores	4,670	3,780		
Canadian ores	401	428		
Foreign ores	439	707		
Total	5,510	4,920		
Consumption by process	Consumption of ores and agglomerates, January ³			
Blast furnaces	5,010	4,370		
Steel furnaces	3	39		
Agglomerating plants ⁴	492	510		
Miscellaneous ⁵	--	--		
Total	5,510	4,920		
Storage point	Stocks of ores and agglomerates, January 31 ³			
Furnace yards	NA	11,100		
Receiving/transfer docks	NA	1,430		
Total consumer	11,700	12,600		
	Blast furnace production of hot metal			
	November		January-November	
	2004	2003	2004	2003
Hot metal and pig iron produced in blast furnaces	3,380 ^e	3,200	37,400 ^e	35,700
No. of blast furnaces operating on the last day of the month	NA	30	XX	XX

^eEstimated. NA Not available. XX Not applicable. -- Zero.

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

²Includes agglomerates.

³Data after January 2004 is not available at the time of publication.

⁴Iron ore and iron ore concentrates consumed in agglomerating plants not located at the mine or plant site.

⁵Sold to nonreporting companies or used for purposes not listed.

Sources: American Iron Ore Association (consumption of iron ore 2003) and American Iron and Steel Institute (production of hot metal and pig iron).

TABLE 5
U.S. EXPORTS OF IRON ORE, BY COUNTRY OF DESTINATION AND TYPE^{1,2}

(Thousand metric tons)

Country of destination and type of product	1st quarter	2nd quarter	3rd quarter	September	October
Canada	958	2,860	2,300	619	534
China	59	83	129	58	--
Mexico	1	(3)	1	(3)	1
Slovakia	--	53	134	26	--
Trinidad and Tobago	--	--	29	--	--
Yugoslavia	--	52	--	--	--
Other	1	1	1	(3)	(3)
Total	1,020	3,050	2,590	703	535
Pellets	1,020	2,960	2,420	642	531
Concentrates	2	19	2	(3)	1
Direct shipping ores	(3)	65	169	61	(3)
Other	1	2	(3)	(3)	3
Total	1,020	3,050	2,590	703	535

-- Zero.

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

²Includes agglomerates.

³Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 6
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	2004					2003
	October		Year to date			January-October
	Thousand metric tons	Value ³ (thousand dollars)	Thousand metric tons	Value ³ (thousand dollars)	Value ³ (dollars per ton)	Thousand metric tons
Australia	--	--	(4)	24	54.15	128
Brazil	588	17,000	4,290	119,000	27.70	4,370
Canada	318	9,790	4,560	149,000	32.62	5,680
Chile	53	1,340	160	4,150	26.00	296
Finland	3	120	11	451	40.33	9
Italy	(4)	5	(4)	5	991.80 ⁵	--
Mexico	--	--	49	1,220	24.83	24
Norway	4	148	4	148	38.22	4
Peru	--	--	32	578	18.05	42
South Africa	--	--	104	4,100	39.29	--
Spain	--	--	(4)	3	39.91	--
Sweden	--	--	111	4,520	40.87	88
Uruguay	(4)	5	(4)	5	2,400.00 ⁵	--
Venezuela	143	4,070	199	14,600	73.38 ⁵	21
Total	1,110	32,500	9,510	297,000	31.23	10,700
Concentrates	119	2,650	889	20,700	23.25	957
Coarse ores	(4)	5	4	158	40.65	24
Fine ores	463	10,500	2,610	59,100	22.68	1,880
Pellets	524	19,200	5,920	206,000	34.73	7,510
Briquettes	--	--	56	10,500	188.39	--
Other agglomerates	--	--	30	730	24.45	293
Roasted pyrites	3	125	8	332	43.38	7
Total	1,110	32,500	9,510	297,000	31.23	10,700

-- Zero.

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

²Includes agglomerates.

³Customs value. Excludes international freight and insurance charges.

⁴Less than 1/2 unit.

⁵May 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 OCTOBER 2004^{1,2}
(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	35	--	259	295	--	--	588
Canada	36	--	52	230	--	--	318
Chile	48	--	5	--	--	--	53
Finland	--	--	--	--	--	3	3
Italy	--	--	--	--	--	(3)	(3)
Norway	--	--	4	--	--	--	4
Uruguay	--	(3)	--	--	--	--	(3)
Venezuela	--	--	143	--	--	--	143
Total	119	(3)	463	524	--	3	1,110

-- Zero.

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

²Includes agglomerates.

³Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF PELLETS, BY COUNTRY¹

Country of origin	2004					2003
	October		Year to date			January-October
	Thousand metric tons	Value ² (thousand dollars)	Thousand metric tons	Value ² (thousand dollars)	Value ² (dollars per ton)	Thousand metric tons
Brazil	295	10,700	2,290	77,700	33.92	2,510
Canada	230	8,510	3,630	128,000	35.24	5,000
Total	524	19,200	5,920	206,000	34.73	7,510

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

²Customs 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^{1,2}
(Exclusive of ore containing 20% or more manganese)

(Thousand metric tons)

Customs district (code no.)	October	January-October	
	2004	2004	2003
Baltimore, MD (13)	279	3,010	2,770
Boston, MA (04)	(3)	(3)	--
Buffalo, NY (09)	1	6	7
Charleston, SC (16)	--	(3)	106
Chicago, IL (39)	279	1,160	933
Cleveland, OH (41)	163	1,930	2,730
Detroit, MI (38)	--	123	226
Great Falls, MT (33)	--	(3)	--
Houston - Galveston, TX (53)	5	57	72
Laredo, TX (23)	8	8	20
Los Angeles, CA (27)	--	--	(3)
Miami, FL (52)	(3)	(3)	--
Mobile, AL (19)	4	84	75
New Orleans, LA (20)	368	3,090	3,630
New York City, NY (10)	--	--	(3)
Nogales, AZ (26)	--	(3)	--
Ogdensburg, NY (07)	--	--	1
Philadelphia, PA (11)	3	58	82
Tampa, FL (18)	--	--	16
Total	1,110	9,510	10,700

-- Zero.

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

²Includes agglomerates.

³Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 10
 U.S. IMPORTS FOR CONSUMPTION OF PELLETS,
 BY CUSTOMS DISTRICT¹

(Thousand metric tons)

Customs district (code no.)	October	January-October	
	2004	2004	2003
Baltimore, MD (13)	66	1,130	1,050
Charleston, SC (16)	--	--	105
Chicago, IL (39)	--	196	--
Cleveland, OH (41)	163	1,890	2,730
Detroit, MI (38)	--	123	226
Houston-Galveston, TX (53)	--	52	55
Laredo, TX (23)	8	8	20
Mobile, AL (19)	--	--	59
New Orleans, LA (20)	287	2,520	3,260
Total	524	5,920	7,510

-- Zero.

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

Source: U.S. Census Bureau.