



U.S. Department of the Interior • Bureau of Mines



MINERAL INDUSTRY SURVEYS

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IRON ORE IN OCTOBER 1990

U.S. mine production of iron ore in October was 4% less than that of September, according to the Bureau of Mines, U.S. Department of the Interior. The Empire and Tilden mines in Michigan were shut down throughout October because of a labor dispute. (See August 1990 MIS.) As a result, shipments from U.S. loading docks on the upper Great Lakes totaled only 4.6 million metric tons and were down 12% from those of September. Increased shipments from Minnesota partially offset the cutbacks in Michigan. The American Iron Ore Association reported only 313,000 tons loaded at Escanaba and none at Marquette. Production and shipments for the entire country were down 30% and 25%, respectively, from the pre-strike levels of July. Monthly consumption of ore and agglomerates rose slightly to 6.4 million tons. Ore consumption was relatively stable throughout the third quarter despite signs of an impending recession and a possible resurgence of steel imports. On October 31, 46 blast furnaces were in operation, 2 less than on September 30. Furnace operators had, on the average, about 69 days of ore stocks in their yards.

Butler Pelletizing Plant Demolished

Explosives were used to demolish the last remnants of the Butler Taconite pelletizing plant in northeastern Minnesota. The demolition was part of the final stage of a 5-year closing process. The site is in the southwestern part of the Mesabi Range between the towns of Nashwauk and Pengilly. An extensive reclamation project will be initiated in cooperation with the State of Minnesota when the site is completely cleared. Butler Taconite, a joint venture of Inland Steel Co. (38.0%), M.A. Hanna Co. (37.5%), and Wheeling-Pittsburgh Steel Corp. (24.5%), was closed in 1985 after Wheeling-Pittsburgh filed for bankruptcy protection. The 2.7 million-ton-per-year mining and pelletizing complex was built on top of three exhausted natural ore mines and came on line in March 1967. Butler Taconite shipped a total of 41.2 million tons of pellets during its 18 years of operation.

Update: Algoma Seeks to Sell Its Tilden Mine Holdings

The Algoma Steel Corp. Ltd. is seeking a buyer for its holdings in the Tilden mining and pelletizing complex. (See May 1990 MIS.) The Canadian steel

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company has been a partner in the upper Michigan operation since the complex's inception in 1972. The proposed sale is part of Algoma's efforts to restructure, retire debt, and focus on its core steel business. The restructuring comes 2½ years after the company was acquired by Dofasco Inc., another Canadian steel company. The acquisition made Dofasco the fourth largest steelmaker in North America.

Algoma owns and operates an integrated steelworks at Sault Ste. Marie, Ontario. In recent years, iron units for the four blast furnaces at Sault Ste. Marie have come from three principal sources:

- Vessels have brought Tilden pellets across Lake Superior from Marquette.
- Superfluxed sinter has been railed 300 km along the northeastern shore of Lake Superior from Algoma's sintering plant at Wawa on the Michipicoten Range. The bulk of the iron units in the Wawa sinter has come from siderite mined at the neighboring George W. MacLeod Mine, an underground operation opened in 1960.
- Algoma has a one-strand plant at Sault Ste. Marie that can produce about 440,000 tons per year of conventional sinter from ore fines and recycled waste materials. The plant was built in 1952.

The current equity ownerships for Tilden are shown below:

	<u>Tilden Magnetite Partnership</u>	<u>Tilden Mining Co.</u>
The Algoma Steel Corp. Ltd.	50.0%	25.0%
Cleveland-Cliffs Inc	33.3	66.6
Stelco Inc.	16.7	8.4

Cleveland-Cliffs Inc (CCI) manages the mining complex for the two partnerships and receives royalties and management fees based on production. CCI, one of the larger iron ore merchants in North America, has owned the property near Ishpeming since 1865. Algoma's fee payments to CCI had been averaging about \$600,000 per month. The mine partnership arrangements were restructured between 1987 and 1988. Since then, the three partners have spent \$30 million to develop the Cliffs Drive III magnetite ore body and upgrade the pelletizing plant so that it can process both magnetite and hematite.

Because of the restructuring, Algoma may have to take fewer pellets from Tilden. Tilden had been scheduled to produce 6.7 million tons in 1991, with 3.8 million going to CCI, 2.6 million to Algoma, and 300,000 to Stelco. CCI has decided to accelerate its own take of pellets and increase its payments to the joint venture so that the scheduled production rate can be maintained over the next 2 or 3 months. However, the 1991 production goal may eventually have to be reduced by as much as 2 million tons. Tilden produced 7.17 million tons of pellets in 1989, but only 4.02 million tons in 1990 because of the labor dispute discussed earlier.

Correction to September MIS

At the end of September, furnace operators had about 63 days of ore stocks in their yards, not 36 days as was published.

The MINES-DATA System

The telephone number for the MINES-DATA computer bulletin board is (202) 634-4637; the computer settings are: 2400, N, 8, and 1. Anyone who needs technical assistance or a copy of the MINES-DATA instruction manual can leave a message with the answering machine by calling (202) 634-9632.

U.S. IRON ORE

MONTHLY PRODUCTION AND SHIPMENTS

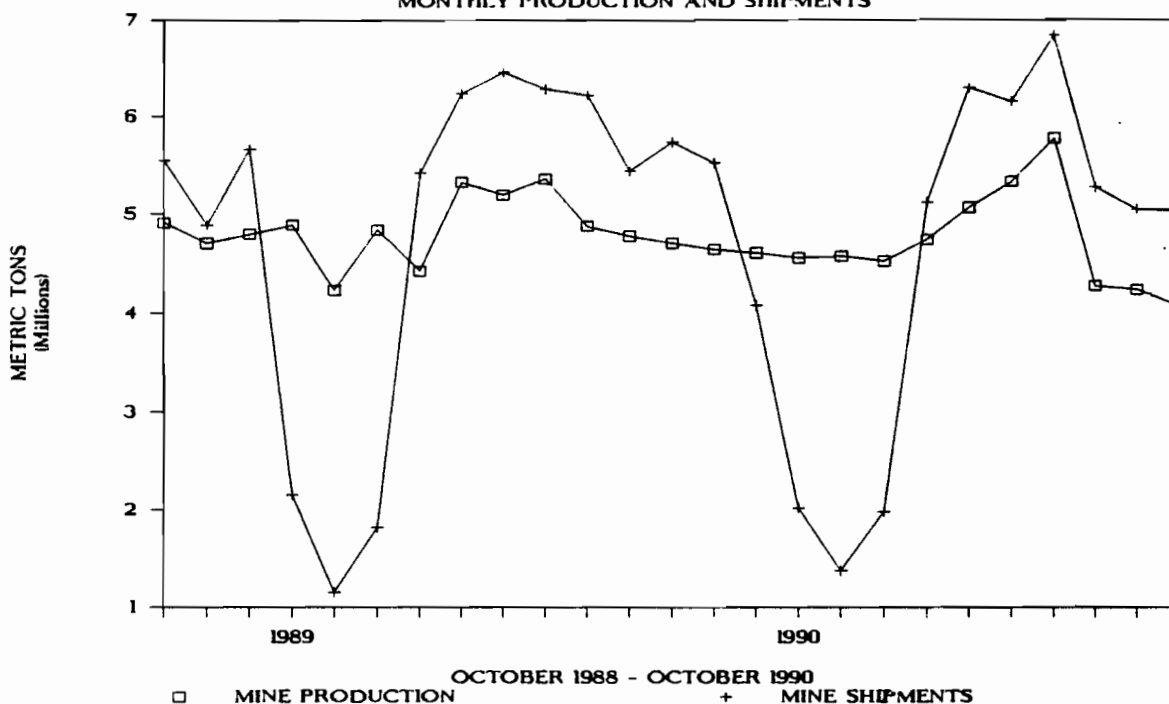


Table 1. - U.S. production and shipments of iron ore, by districts 1/
(Exclusive of ore containing 5% or more manganese)
(thousand metric tons)

Period	Lake Superior	Other U.S.	Total 2/	
			1990	1989
Production:				
1989	56,981	2,052	--	59,032
1990:				
1st Quarter.....	13,425	223	13,648	13,960
2nd Quarter.....	14,909	232	15,141	14,946
3rd Quarter.....	14,005	282	14,287	15,009
October.....	3,979	90	4,069	4,703
Shipments:				
1989 3/.....	56,089	2,210	--	58,299
1990:				
1st Quarter.....	5,145	230	5,375	5,131
2nd Quarter.....	17,335	250	17,585	18,121
3rd Quarter.....	16,912	262	17,175	17,945
October.....	5,047	93	5,140	5,735

1/ Excludes byproduct ore, except where noted.

2/ Data may not add to totals shown because of independent rounding.

3/ Includes byproduct ore.

Table 2. - U.S. mine production, shipments and stocks of iron ore 1/
(Exclusive of ore containing 5% or more manganese)
(Thousand metric tons)

District	Production October		Shipments October		Mine Stocks October 31	
	1990	1989	1990	1989	1990	1989
Lake Superior:						
Michigan 2/.....	--	997	330	1,334	422	1,459
Minnesota.....	3,979	3,627	4,717	4,309	5,846	3,406
Other U.S.	90	80	93	92	130	110
Total 3/.....	4,069	4,703	5,140	5,735	6,398	4,976

1/ Excludes byproduct ore.

2/ Production facilities were shut down by a labor dispute on August 1, 1990.

3/ Data may not add to totals shown because of independent rounding.

Table 3. - Canada: Shipments of iron ore
(Thousand dry metric tons)

Period	Newfound- land	Quebec	Ontario	British Columbia	Total 1/	
					1990	1989
1989 p/.....	20,662	15,395	3,353	64	--	39,474
1990:						
1st Quarter.....	1,179	1,884	677	9	3,749	6,008
2nd Quarter.....	5,070	4,058	296	33	9,457	11,230
3rd Quarter.....	7,028	3,904	112	21	11,065	11,355
October.....	1,836	1,598	--	6	3,439	r/3,398

p/ Preliminary. r/ Revised.

1/ Data may not add to totals shown because of independent rounding.

Source: Energy, Mines, and Resources Canada.

Table 4. - U.S. consumption and stocks of iron ore and agglomerates
at consuming plants and production of pig iron
(Thousand metric tons)

State or Region	Consumption			Stocks	
	September	Year to date 1/		September 30	
	1990	1990	1989	1990	1989
Alabama, Kentucky, Tennessee, Texas, and Missouri.....	549	4,946	4,291	896	1,400
California, Colorado, and Utah.....	160	1,529	1,642	121	87
Delaware, Maryland, and West Virginia.....	529	4,765	6,066	1,775	2,255
Illinois and Indiana.....	2,422	22,503	21,318	5,135	5,564
Michigan and Minnesota.....	671	5,723	5,427	1,657	1,993
New York, Ohio, Pennsylvania, New Jersey, Rhode Island.....	1,869	16,354	17,257	3,346	3,482
Total 2/.....	6,200	55,819	56,001	12,930	14,781
Stocks at U.S. receiving/transfer docks.....				1,878	1,804

Consuming Sector	Consumption by process			Pig iron produced		
	September	Year to date 1/		September	Year to date 1/	
	1990	1990	1989	1990	1990	1989
Blast furnaces.....	5,685	51,572	49,762	4,199	37,594	38,697
Steel furnaces.....	6	68	216	-- --	-- --	-- --
Agglomerating plants 3/.....	483	4,150	6,019	-- --	-- --	-- --
Miscellaneous 4/.....	26	29	3	-- --	-- --	-- --
Total 2/.....	6,200	55,819	56,001	4,199	37,594	38,697

1/ May include revisions for previous months.

2/ Data may not add to totals shown because of independent rounding.

3/ Iron ore and iron ore concentrates consumed in agglomerating plants not located at the mine site.

4/ Sold to nonreporting companies or used for purposes not listed.

Source: American Iron Ore Association (consumption of iron ore).

American Iron and Steel Institute (production of pig iron).

Table 5. - U.S. exports of iron ore and agglomerates, by country of destination
(Thousand metric tons)

Period	Canada	Mexico	Other	Total 1/	
				1990	1989
1989.....	5,359	(2/)	6	--	5,365
1990:					
1st Quarter.....	352	(2/)	1	353	348
2nd Quarter.....	1,811	1	1	1,813	1,991
July.....	585	(2/)	--	585	393
August.....	168	(2/)	--	168	592
September.....	20	--	(2/)	20	715

1/ Data may not add to totals shown because of independent rounding.

2/ Less than one-half unit.

Source: Bureau of the Census data reported under heading 2601 of the export classification system (Schedule B).

Table 6. - U.S. exports of iron ore and agglomerates, by type
(Thousand metric tons)

Period	Pellets	Concentrates	Direct shipping ores	Other	Total 1/
1989	4,852	353	145	16	5,365
1990:					
1st Quarter.....	296	3	2	52	353
2nd Quarter.....	1,704	2	8	99	1,813
July.....	584	1	(2/)	(2/)	585
August.....	166	1	1	(2/)	168
September.....	19	(2/)	1	(2/)	20

1/ Data may not add to totals shown because of independent rounding.

2/ Less than one-half unit.

Source: Bureau of the Census data reported under heading 2601 of the export classification system (Schedule B).

Table 7. - U.S. imports for consumption of iron ore and agglomerates, by country
(Exclusive of ore containing 20% or more manganese)

Country of origin	September 1990		Year to date 1990			Year to date 1989
	Thousand metric tons	Value 1/ (thousand dollars)	Thousand metric tons	Value 1/ (thousand dollars)	Value 1/ (dollars per ton)	(thousand metric tons)
Australia.....	--	--	14	584	42.14	303
Brazil.....	521	11,006	3,449	74,357	21.56	4,167
Canada.....	2/964	2/36,076	6,176	225,370	36.49	6,156
Chile.....	--	--	52	1,099	21.00	61
India.....	--	--	--	--	--	59
Liberia.....	--	--	--	--	--	200
Mauritania.....	62	1,288	410	8,792	21.43	460
Norway.....	--	--	--	--	--	40
Peru.....	--	--	2/37	2/1,018	2/27.67	104
Philippines 3/.....	--	--	--	--	--	66
Spain.....	(4/)	3	(4/)	20	61.30	--
Sweden.....	--	--	54	2,273	42.28	--
Venezuela.....	302	8,938	2/2,454	2/74,101	2/30.20	3,361
Other.....	--	--	(4/)	13	308.95	r/(4/)
Total 5/.....	1,848	57,311	12,647	387,626	6/30.65	14,978

r/ Revised.

1/ Customs value. Excludes international freight, insurance, and other c.i.f. charges.

2/ Part being questioned.

3/ Sinter made from raw materials supplied by Australia, Brazil, and other countries.

4/ Less than one-half unit.

5/ Data may not add to totals shown because of independent rounding. Unit values shown above are calculated from unrounded data.

6/ Weighted average calculated from unrounded data by dividing total value by total tonnage.

Source: Bureau of the Census data reported under heading 2601 of the Harmonized Tariff Schedules of the United States.

Table 8. - U.S. imports for consumption of iron ore and agglomerates, by type
(Exclusive of ore containing 20% or more manganese)

Type of product	September 1990		Year to date 1990			Year to date 1989 (thousand metric tons)
	Thousand metric tons	Value 1/ (thousand dollars)	Thousand metric tons	Value 1/ (thousand dollars)	Value 1/ (dollars per ton)	
Concentrates.....	38	384	108	3,348	31.04	313
Coarse ores.....	--	--	320	8,377	26.14	462
Fine ores.....	678	14,772	6,535	175,563	26.86	r/8,887
Pellets.....	1,104	41,221	5,654	199,280	35.25	4,194
Briquettes.....	2/28	2/935	2/29	2/1,047	2/35.79	--
Other						
agglomerates.....	--	--	--	--	--	r/1,001
Roasted pyrites.....	--	--	2/(3/)	2/10	2/1,475.43	121
Total 4/.....	1,848	57,311	12,647	387,626	5/30.65	14,978

r/ Revised.

1/ Customs value. Excludes international freight, insurance, and other c.i.f. charges.

2/ All or part being questioned.

3/ Less than one-half unit.

4/ Data may not add to totals shown because of independent rounding. Unit values shown above are calculated from unrounded data.

5/ Weighted average calculated from unrounded data by dividing total value by total tonnage.

Source: Bureau of the Census data reported under heading 2601 of the Harmonized Tariff Schedules of the United States.

Table 9. - U.S. imports for consumption of iron ore and agglomerates
in September 1990
(Exclusive of ore containing 20% or more manganese)
(Thousand metric tons)

Country of origin	Type of Product						Total 1/
	Concentrates	Coarse ores	Fine ores	Pellets	Briquettes and other agglomerates	Roasted pyrites	
Brazil.....	--	--	497	24	--	--	521
Canada.....	38	--	--	898	2/28	--	964
Mauritania...	--	--	62	--	--	--	62
Spain.....	--	--	(3/)	--	--	--	(3/)
Venezuela....	--	--	119	183	--	--	302
Total 1/.....	38	--	678	1,104	28	--	1,848

1/ Data may not add to totals shown because of independent rounding.

2/ Being questioned.

3/ Less than one-half unit.

Source: Bureau of the Census data reported under heading 2601 of the Harmonized
Tariff Schedules of the United States.

Table 10. - U.S. imports for consumption of pellets, by country

Country of origin	September 1990		Year to date 1990			Year to date 1989
	Thousand metric tons	Value 1/ (thousand dollars)	Thousand metric tons	Value 1/ (thousand dollars)	Value 1/ (dollars per ton)	(thousand metric tons)
Brazil.....	24	666	488	14,351	29.41	355
Canada.....	898	34,757	3,957	145,856	36.86	2,187
India.....	--	--	--	--	--	59
Peru.....	--	--	37	1,007	27.40	78
Venezuela.....	183	5,797	1,172	38,066	32.48	1,515
Other.....	--	--	--	--	--	r/--
Total 2/.....	1,104	41,221	5,654	199,280	3/35.25	4,194

r/ Revised.

1/ Customs value. Excludes international freight, insurance, and other c.i.f. charges.

2/ Data may not add to totals shown because of independent rounding. Unit values shown above are calculated from unrounded data.

3/ Weighted average calculated from unrounded data by dividing total value by total tonnage.

Source: Bureau of the Census data reported under item 2601.12.00.30 of the
Harmonized Tariff Schedules of the United States.

Table 11. - U.S. imports for consumption of iron ore and agglomerates,
by customs district
(Exclusive of ore containing 20% or more manganese)
(Thousand metric tons)

Customs district	September 1990	Year to date	
		1990	1989
Baltimore (13).....	302	2,586	r/4,905
Charleston, SC (16).....	95	451	354
Chicago (39).....	147	1,043	2,209
Cleveland (41).....	261	1,227	1,084
Detroit (38).....	122	820	478
Houston-Galveston (53)...	--	(1/)	(1/)
Laredo (23).....	--	10	--
Los Angeles (27).....	--	(1/)	(1/)
Mobile (19).....	248	2,353	1,455
New Orleans (20).....	325	1,281	1,452
New York (10).....	(1/)	(1/)	r/(1/)
Ogdensburg, NY (07).....	--	1	3
Philadelphia (11).....	348	2,873	3,037
San Francisco (28).....	--	--	(1/)
San Juan, PR (49).....	--	(1/)	(1/)
Other.....	--	(1/)	r/--
Total 2/.....	1,848	12,647	14,978

r/ Revised.

1/Less than one-half unit.

2/Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census data reported under item 2601 of the
Harmonized Tariff Schedules of the United States.

Table 12. - U.S. imports for consumption of pellets, by customs district
(Thousand metric tons)

Customs district	September 1990	Year to date	
		1990	1989
Baltimore (13).....	202	620	628
Charleston, SC (16).....	71	404	270
Chicago (39).....	--	226	562
Cleveland (41).....	233	543	343
Detroit (38).....	122	275	--
Laredo (23).....	--	10	--
Mobile (19).....	127	1,077	--
Philadelphia (11).....	348	2,499	2,391
Total 1/.....	1,104	5,654	4,194

1/ Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census data reported under item 2601.12.00.30
of the Harmonized Tariff Schedules of the United States.