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

MINERAL INDUSTRY SURVEYS

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IRON ORE IN FEBRUARY 1990

U.S. mine production of iron ore remained essentially unchanged from that of January, according to the Bureau of Mines, U.S. Department of the Interior. Mine shipments, however, decreased 32% due to the unseasonably cold weather in Michigan and Minnesota. With rail traffic severely reduced and lake shipping at a standstill, mine stocks rose 45% from 7.1 million to 10.3 million metric tons. There were no shipments from U.S. loading docks on the upper Great Lakes because of ice jams on the St. Marys River and the traditional shutdown of the Michigan ports of Escanaba and Marquette for the remainder of the winter. Monthly consumption of ore and agglomerates decreased 10% to 5.4 million tons as steelworks cut back production in response to declining orders from the automotive industry. Ore stocks at consuming plants continued to drop, decreasing 22% from 13.1 million to 10.3 million tons. On February 28, 47 blast furnaces were in operation, the same number as on January 31.

The Bureau of Mines is testing a system called MINES-DATA, to provide Mineral Industry Surveys on Iron Ore electronically. The Bureau expects that users with microcomputers and communications equipment in the United States and abroad can obtain iron ore data up to 4 weeks sooner than was previously possible. Monthly data usually will be available approximately 40 work days after the end of the period covered. February data which are given in this report were available on MINES-DATA on May 7. See page 2 for details on how to use MINES-DATA.

Prepared in the Branch of Ferrous Metals and Branch of Data Collection and Coordination, May 7, 1990

How To Use MINES-DATA

MINES-DATA is an electronic data dissemination system that allows users to download Bureau of Mines' Mineral Industry Surveys on iron ore using personal computers. Other commodities will be added later. **MINES-DATA** is in the early stages of implementation and improvements are expected. The user needs a computer, a modem, communications software, a telephone line, and a disk for storing the downloaded files. A hard disk is recommended to assure sufficient storage capacity. There is no cost to use the system except for the cost of the telephone call.

There are two types of files on the system--text (ASCII) files that have the extension ".TXT", and executable files that have the extension ".EXE". Text files contain no formatting codes, and executable files contain all the text files for the Mineral Industry Survey for a given month in a data compressed format to facilitate faster data transfer.

Before calling, users should set their modems to call at either 1200 baud or 2400 baud, 8 data bits, no parity, and one stop bit (1200,N,8,1) or (2400,N,8,1). The telephone number is: 202-634-4637. First time users must register, provide a password, and answer questions such as whether their computer supports graphics or color screens. Turning on turbo-keys means that a user does not need to use the return or enter key after selecting a command. Users have an option to provide a default protocol. The recommended protocol is Ymodem. However, Xmodem is acceptable if the user's communications software does not support Ymodem. Both Ymodem and Xmodem are error checking protocols that employ algorithms to detect errors in data transmission. After the user answers the questions, the system stores the answers in a user profile. A user may change the information stored in his profile at any time by selecting "U" or utilities from the main menu.

After answering the introductory questions from the main menu the user may want to read bulletins by selecting the letter "B", and then selecting the number corresponding to the bulletin desired. After reading the bulletins, the user may select the letter "F" from the main menu to see the files submenu. The user should select the letter "L" to list the commodities that are available on the system. The user then types the name of the commodity that they want to see, e.g. "IRON ORE", and a listing of the files corresponding to that commodity is presented. If a user wants to download all of the files for the December Iron Ore Mineral Industry Survey, the user types the filename "FEFEB90.EXE", followed by a return or enter key. The user should consult his communications software instructions for downloading procedures. A brief description of some of these instructions is contained in bulletin #3. The communications program notifies the user after a successful download. The user selects the letter "Q" to quit and the letter "G" for goodbye to sign off the system.

After logging off the system, the user has the option to print the text files. To print text (.TXT) files, a user must set his printer to compressed print in order to avoid word wrap of tables exceeding 80 columns in width. If the user has downloaded an ".EXE" file, e.g. filename "FEFEB90.EXE," typing the filename without the .EXE extension will extract and decompress the text files. The user then may use the DOS "PRINT" command to print the individual text files.

Questions on how to use **MINES-DATA** should be directed to the systems operator answering service in the Branch of Nonferrous Metals, 202-634-9632, available 24 hours-per-day. Written questions, comments or suggestions for improving this system also would be appreciated and may be sent to:

Bureau of Mines
Branch of Nonferrous Metals
Systems Operator (SYSOP), MS 5208
2401 E St. NW
Washington, DC 20241

Ungava Bay Deposits of Northern Quebec

Because of the pickup in demand for iron ore since 1986 and the improved long-term outlook for steel, mining entrepreneurs have begun reevaluating several North American development projects that have lain dormant for more than a decade. One of the iron ore projects receiving attention has been a series of deposits on the West Coast of Ungava Bay in northern Quebec. The most promising deposits are located about 35 km west of the natural, deep harbor at Hopes Advance Bay (59°30′ N latitude and 70°0′W longitude). The iron occurs as bands of magnetite or specular hematite in a metasedimentary iron formation of late Precambrian age. The iron formation is part of the Labrador Trough -- a 50 to 100 km-wide geosyncline which extends more than 1,200 km across the eastern half of the Canadian Shield from Wabush Lake to Ungava Bay and Hudson Strait. The Ungava deposits outcrop at the northern end of the trough and are very similar in type to those currently being mined at Carol Lake, Wabush, and Mount Wright at the southern end.

The Hopes Advance Bay area was explored in detail between 1951 and 1958 by Atlantic Iron Ores Ltd., who located over 500 million tons of ore averaging 35.7% acid soluble Fe. In 1957, Ungava Iron Ores Co., a consortium of Canadian, U.S., and German mining interests, was formed to develop the concessions. Metallurgical work carried out between 1961 and 1970 for the consortium indicates that the Ungava ores can be recovered economically by the same gravity and magnetic separation processes being utilized in the southern part of the trough. In 1972, Lone Star Industries, Inc. joined the consortium and had its mining and exploration subsidiary completely reevaluate the project. At that time, it was decided to put the project on hold until market conditions improved in Europe. The exploration permits from the Provincial Government are now held by a new company, Ungava Iron Ores, Ltd., which was formed to take advantage of new techniques in gravity separation and the recent return to equilibrium between iron ore supply and demand.

A large part of the reserves in the Bay and Castle Mountain zones are exposed along a series of barren, long, narrow ridges that rise 15 to 35 m above the surrounding tundra. Because of the absence of significant overburden, stripping would be minimal. The short rail line needed to connect the minesite to the harbor is also a distinct advantage. However, even today, the construction of a beneficiation plant, town, harbor facilities, and dock anywhere in the Arctic is still challenging and extremely expensive.

Mine Owners in Upper Michigan Agree to Pay Higher Ore Taxes in 1990

In Michigan, mining companies are required to pay a specific ore tax to the local township in lieu of property taxes. However, the computation of this tax is not straightforward and, in recent years, has become a source of contention between the mine owners and the township supervisors. (See May 1989 MIS). The mine owners argue that the prevailing market price for pellets should be used to calculate the tax. Local officials disagree, claiming that they have no way of verifying either spot prices or short-term contract prices and want to use the higher prices published in trade journals.

On March 1, the owners of the three taconite complexes in Marquette County agreed not to protest their 1990 tax assessments in order to maintain

good relations with the community. The Cleveland-Cliffs Iron Co. ("Cliffs"), managing partner of the Empire and Tilden Mines, estimates that the three operations will pay more than $1 million in additional taxes this year because of the decision.

The ore tax for each mine is normally based on a 5-year average of its production. The Republic Mine, however, has been idle since 1981 and must be treated differently. Since the mine is inactive, its rated capacity is used in the tax formula in place of the 5-year production average. Cliffs, the owner of the mine, has paid Republic Township more than $5 million since the shutdown. In 1989, Cliffs claimed that the specific ore tax on Republic should have been only $207,000 instead of the $527,000 billed by the township. The company appealed its assessment to the Michigan Tax Tribunal in June 1989. Nothing has happened since then and both sides are waiting for the tribunal to set a prehearing date. Cliffs later made a $470,000 compromise payment to the township in September 1989, but has refused to drop its appeal. The township also has been unwilling to negotiate. A county-wide task force has been set up to study the entire tax issue and recommend changes to the existing State law. In 1989, the mine owners made compromise payments of $2.5 million to Richmond Township for the Empire Mine and $1.7 million to Tilden Township for Tilden.

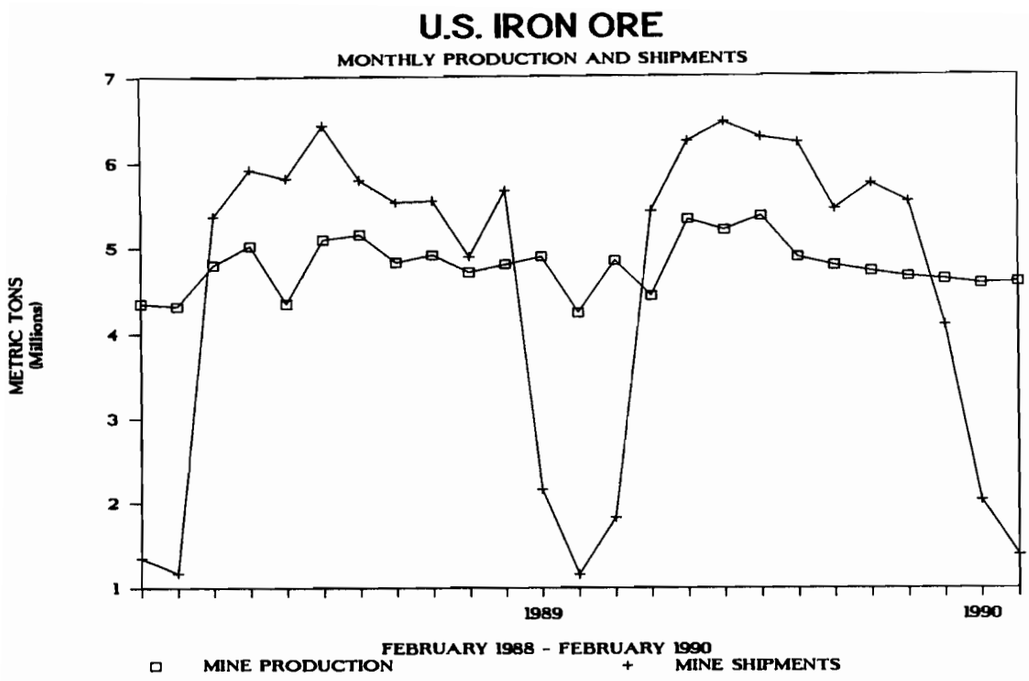

Table 1. - U.S. production and shipments of iron ore, by districts 1/
(Exclusive of ore containing 5% or more manganese)
(Thousand metric tons)

Period	Lake Superior	Other U.S.	Total 2/ 1990	Total 2/ 1989
Production:				
1989 p/	56,858	1,014	--	57,872
1990:				
January	4,481	74	4,555	4,890
February	4,509	63	4,572	4,229
Shipments:				
1989 p/	55,473	1,057	--	56,530
1990:				
January	1,947	74	2,021	2,155
February	1,304	73	1,378	1,158

p/ Preliminary.
1/ Excludes byproduct ore, except where noted.
2/ Data may not add to totals shown because of independent rounding.

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 February		Shipments February		Mine Stocks February 28	
	1990	1989	1990	1989	1990	1989
Lake Superior:						
Michigan--------	1,142	1,207	98	105	2,618	2,537
Minnesota-------	3,367	2,975	1,207	993	7,549	6,365
Other U.S.--------	63	47	73	60	130	197
Total 2/--------	4,572	4,229	1,378	1,158	10,296	9,099

1/ Excludes byproduct ore.
2/ 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:						
January---------	487	534	235	3	1,258	1,772
February--------	430	505	187	3	1,125	2,571

p/ Preliminary.
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 January 1990	Consumption January 1989	Stocks January 31 1990	Stocks January 31 1989
Alabama, Kentucky, Tennessee, Texas, and Missouri	522	483	769	876
California, Colorado, and Utah	163	186	107	46
Delaware, Maryland, and West Virginia	573	735	2,064	1,904
Illinois and Indiana	2,210	2,583	5,555	6,769
Michigan and Minnesota	623	570	1,326	2,130
New York, Ohio, Pennsylvania, New Jersey, Rhode Island	1,861	2,130	3,314	3,711
Total 1/	5,951	6,688	13,134	15,436
Stocks at U.S. receiving/transfer docks			1,853	r/2,088

Consuming Sector	Consumption by process January 1990	Consumption by process January 1989	Pig Iron Produced January 1990	Pig Iron Produced January 1989
Blast furnaces	5,538	5,711	4,207	4,504
Steel furnaces	10	32	--	--
Agglomerating plants 2/	403	944	--	--
Miscellaneous 3/	(4/)	(4/)	--	--
Total 1/	5,951	6,688	4,207	4,504

r/ Revised.
1/ Data may not add to totals shown because of independent rounding.
2/ Iron ore and iron ore concentrates consumed in agglomerating plants not located at the mine site.
3/ Sold to nonreporting companies or used for purposes not listed.
4/ Less than one-half unit.

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 p/---------	5,345	(2/)	6	--	5,351
1990:					
January-------	100	--	--	100	344

p/ Preliminary.
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 p/---------	2,873	2,318	145	16	5,351
1990:					
January-------	81	(2/)	(2/)	19	100

p/ Preliminary.
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	January 1990			January 1989
	Thousand metric tons	Value 1/ (thousand dollars)	Value 1/ (dollars per ton)	(thousand metric tons)
Brazil----------	252	4,176	16.59	199
Canada----------	401	15,132	37.76	421
Mauritania------	64	1,102	17.21	--
Norway----------	--	--	--	40
Peru------------	2/(3/)	2/9	2/9,428.00	--
Venezuela-------	105	3,659	34.81	154
Other ---------	--	--	--	(3/)
Total 4/-----	822	24,079	5/29.31	814

1/ Customs value. Excludes international freight, insurance, and other c.i.f. charges.
2/ 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 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	January 1990			January 1989
	Thousand metric tons	Value 1/ (thousand dollars)	Value 1/ (dollars per ton)	(thousand metric tons)
Concentrates-----	(2/)	42	152.80	40
Coarse ores------	10	576	54.96	(2/)
Fine ores--------	349	6,639	19.00	446
Pellets----------	461	16,812	36.43	327
Briquettes-------	--	--	--	--
Other agglomerates---	--	--	--	(2/)
Roasted pyrites--	3/(2/)	3/9	3/9,428.00	--
Total 4/-----	822	24,079	5/29.31	814

1/ Customs value. Excludes international freight, insurance, and other c.i.f. charges.
2/ Less than one-half unit.
3/ Being questioned.
4/ Data may not add to totals shown because of independent rounding. Unit value shown above are calculated from unrounded data.
5/ Weighted average calculated 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 January 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------	--	--	252	--	--	--	252
Canada------	(2/)	(2/)	34	367	--	--	401
Mauritania--	--	--	64	--	--	--	64
Peru--------	--	--	--	--	--	3/(2/)	3/(2/)
Venezuela---	--	10	--	95	--	--	105
Total 1/-	(2/)	10	349	461	--	3/(2/)	822

1/ Data may not add to totals shown because of independent rounding.
2/ Less than one-half unit.
3/ Being questioned.

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	January 1990			January 1989
	Thousand metric tons	Value 1/ (thousand dollars)	Value 1/ (dollars per ton)	(thousand metric tons)
Canada----------	367	13,718	37.40	229
Venezuela-------	95	3,094	32.68	98
Total 2/------	461	16,812	3/36.43	327

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 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	January 1990	January 1989
Baltimore (13)	160	104
Charleston, SC (16)	--	35
Detroit (38)	1	(1/)
Los Angeles (27)	2/(1/)	--
Mobile (19)	61	117
New Orleans (20)	188	239
New York (10)	--	(1/)
Ogdensburg (07)	(1/)	(1/)
Philadelphia (11)	411	317
Total 3/	822	814

1/ Less than one-half unit.
2/ Being questioned.
3/ Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census data reported under heading 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	January 1990	January 1989
Baltimore (13)	--	10
Mobile (19)	61	--
Philadelphia (11)	401	317
Total 1/	461	327

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.