

Mineral Industry Surveys

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NICKEL IN MAY 2002

In May, reported domestic nickel consumption on a daily average basis was 13% less than that of April, according to the U.S. Geological Survey. Although employment data and other business indicators suggest that the recent decline in U.S. economic activity may be coming to an end, weak economic conditions still persist throughout a large segment of the U.S. steel industry. Average daily nickel consumption of cathode, pellets, briquets, and ferronickel for stainless steel was 65.7 metric tons per day (t/d)—17% less than the 78.7 t/d for April and 19% less than the 81.0 t/d (revised) for May 2001. Consumption of elemental nickel to make nickel-base corrosion-resistant alloys was 4% greater than the corresponding tonnage reported for April. The increase for corrosion-resistant alloys was offset by decreased consumption for superalloys and copper-nickel alloys. Sales to plating companies averaged 32.2 t/d, slightly less than the April sales figure.

On May 31, U.S. consumer stocks of cathode, pellets, briquets, and powder totaled 2,250 t—10% less than the 2,490 t (revised) for April 30, but 13% greater than the 1,990 t (revised) reported for yearend 2001. Stocks in London Metal Exchange (LME) warehouses worldwide increased 33% during May to 27,690 t and were 208% greater than on March 31, 2001, when LME stocks bottomed out at 9,000 t after a 16-month slide. Preliminary data collected by the International Nickel Study Group indicated that, at the end of April 2002, world nickel producers (excluding those in Austria, China, the former Yugoslavia, and the Ural area of Russia) had approximately 96,700 t of nickel in primary products in stock, of which 70,400 t or 73% were Class I materials. Class I materials are refined products with a nickel (Ni) content of 99% or greater (electrolytic cathode, pellets, briquets, rondelles, powder, etc.). Class II materials include ferronickel, oxide sinter, and East Asian utility nickel—products with a Ni content less than 99%.

Percentages reported in the above paragraphs may not be

verifiable owing to concealment of individual company proprietary data and late reporting of data.

The United States imported 37,200 t of primary nickel in the first 4 months of 2002, 24% less than the 49,200 t for the corresponding period of 2001. Class I materials accounted for 88% of total primary imports received during the first 4 months of 2002. Trade data for May 2002 will appear in a subsequent report.

CVRD ponders whether to become a nickel producer

On July 16, Companhia Vale do Rio Doce (CVRD) announced that it had begun a pre-feasibility study of the Vermelho nickel deposits in the Serra dos Carajás of northeastern Brazil (Reuters Limited, 2002). The Vermelho (or Red) laterites were discovered in the 1980's during regional exploration of the Carajás area. According to company officials, the Vermelho deposits contain more than 220 million metric tons (Mt) of lateritic ore averaging 1.23% nickel and 0.12% cobalt (Mining Journal, 2002). The laterites are mineralogically similar to the limonitic laterites of Western Australia and, like the Australian ores, may be amenable to pressure acid leaching.

Brazil currently has three nickel producers: CODEMIN S.A., Cia. Niquel Tocantins, and Mineração Serra da Fortaleza Ltda. CODEMIN and Tocantins mine laterites, while Fortaleza produces a matte for export from sulfide concentrates. Tocantins is the largest of the three and can produce up to 17,500 t/yr of electrolytic nickel and 300 t/yr of cobalt metal. CODEMIN is a ferronickel operation and can produce up to 6,500 t/yr of nickel in an alloy that averages 27% Ni. The capacity of the Fortaleza smelter is about 10,500 t/yr of Ni in matte. The matte is processed at the Harjavalta refinery in Finland.

CVRD is the largest diversified mining company in the Americas and the largest exporter of iron ore in the world. More than one-third of CVRD's iron ore production comes

from the Carajás Iron Ore Project—an integrated mine-railroad-port system built by the company between 1978 and 1987. Today, the multi-billion-dollar project forms the economic backbone of Eastern Amazonia and southern Pará State. Since 1978, CVRD has spent more than \$60 million to foster the recuperation and conservation of delicate Amazon ecosystems in exploited districts. The Carajás operations mine and process more than 45 Mt of iron ore annually, as well as 1.5 Mt of manganese ore, and 10,000 kilograms of gold (Centro Técnico-Científico da PUC-Rio, 1997¹; Companhia Vale do Rio Doce, 2002§).

The Vermelho nickel deposits, discovered in 1974, are 50 kilometers (km) southeast of the existing Carajás iron ore mining complex. Preliminary plans call for a \$700 million metallurgical complex to be built adjacent to the proposed nickel mine. Present thought currently favors a hydrometallurgical operation. The pre-feasibility study is scheduled to be completed by October 2003 and should help project managers determine whether the lateritic ores should be converted into ferronickel, nickel oxide, or nickel cathode. If the pre-feasibility study is positive, a bankable feasibility study could be completed as early as January 2005, with construction beginning shortly afterward. CVRD was hoping to commission the Vermelho plant in late 2007 or 2008. The plant would have a design capacity of 45,000 t of contained nickel, with the bulk of the nickel going to foreign consumers. Cobalt would be a byproduct, again for foreign consumption. The finished products would be trucked 75 km to the Carajás

Railroad for transport to the port of Ponta da Madeira.

Electric power for the nickel plant could come from the proposed Estreito hydroelectric power station to be built on the Tocantins River. The 1,087-megawatt hydroelectric project is a joint venture of CVRD (30%), Tractebel Egi South America Ltda. (30%), Alcoa Alumínio S.A. (19.08%), BHP Billiton Metals S.A. (16.48%) and Camargo Corrêa Energia Ltda. (4.44%) (Companhia Vale do Rio Doce, 2002). Power also could come from the proposed 1,087-megawatt Santa Isabel hydroelectric station in which CVRD has a 43.85% interest (Companhia Vale do Rio Doce, 2001).

References Cited

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

TABLE 1
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE 1/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
2001:					
May	6,640 r/	886	98 r/	7,620 r/	38,300 r/
June	5,750 r/	818	76	6,650 r/	45,000
July	6,470 r/	799	197	7,470 r/	52,500 r/
August	5,920 r/	981	296	7,190 r/	59,600 r/
September	5,460 r/	1,090	187	6,730 r/	66,400 r/
October	5,490 r/	757	160	6,410 r/	72,800 r/
November	5,000 r/	608	323	5,930 r/	78,700 r/
December	4,460 r/	537	215	5,210 r/	83,900 r/
January-December	71,300 r/	10,100	2,500 r/	83,900 r/	XX
2002:					
January	5,080 r/	774	292	6,150 r/	6,150 r/
February	5,000 r/	890	281	6,170 r/	12,300 r/
March	5,030 r/	723	375	6,130 r/	18,500 r/
April	5,370 r/	879	286	6,540 r/	25,000 r/
May:					
Steel:					
Stainless and heat resisting	1,300	722	W	2,030	11,400
Alloy (excludes stainless)	168	--	--	168	1,610
Superalloys	1,210	--	W	1,210	6,040
Copper-nickel alloys	W	--	--	W	W
Electric, magnetic, and expansion alloys	11	--	--	11	55
Other nickel & nickel alloys	W	--	W	W	W
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	997	--	--	997	4,900
Chemical and chemical uses	W	--	--	W	W
Other uses	1,340	--	87	1,430	6,770
Total reported	5,030 2/	722	87	5,840	30,800
Total all companies (calc) 3/	XX	XX	XX	8,330	44,000
2002: January-May	25,500	3,990	1,320	30,800	XX
2001: January-May	32,800	4,540	1,040	38,300	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable.
-- Zero.

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

2/ Of consumption, 4,200 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

3/ Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (70.11%) to apparent primary consumption for 2000.

TABLE 2
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS, BY FORM AND USE 1/ 2/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
2001:				
May	2,470 r/	386	91	2,950 r/
June	2,660 r/	957	75	3,690 r/
July	2,140 r/	995	93	3,230 r/
August	2,390 r/	645	107	3,150 r/
September	2,500 r/	309	102	2,910 r/
October	2,770 r/	391	226	3,390 r/
November	2,480 r/	330	198	3,010 r/
December	1,990 r/	522	289	2,800 r/
2002:				
January	1,800 r/	832	284	2,920 r/
February	2,110 r/	454	106	2,670 r/
March	2,230 r/	152	134	2,510 r/
April	2,490 r/	513	94	3,100 r/
May:				
Steel (stainless, heat resisting and alloy)	829	82	(3/)	911
Nonferrous alloys 4/	1,400	--	(3/)	1,400
Foundry (cast irons)	(3/)	--	(3/)	(3/)
Chemical (catalysts, ceramics, plating salts, etc.) and unspecified uses	18	--	128	146
Total	2,250	82	128	2,460

r/ Revised. -- Zero.

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

2/ Stocks held by companies that consume nickel in more than one end-use category are credited to the major category. Stocks are subject to revisions owing to inventory adjustment.

3/ Included in the "Chemical and unspecified uses" category.

4/ Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE 1/

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap
2001:						
May	4,580 r/	840 r/	5,420 r/	2,620	122	2,750
June	4,330	872 r/	5,200 r/	2,890	123	3,010 r/
July	5,360	790 r/	6,150 r/	2,770	120	2,890
August	5,590	795 r/	6,390 r/	2,780	113	2,890
September	5,590	769 r/	6,360 r/	3,030	105	3,130 r/
October	5,150	1,550 r/	6,700 r/	3,170 r/	100	3,270 r/
November	3,970	848 r/	4,820 r/	3,330	92	3,420
December	3,950 r/	802 r/	4,750 r/	3,750 r/	93	3,850 r/
January-December	55,100 r/	11,400 r/	66,400 r/	XX	XX	XX
2002:						
January	4,940 r/	743 r/	5,680 r/	3,180	86	3,270
February	4,920	769 r/	5,690 r/	3,070	88	3,160
March	5,050	726 r/	5,770 r/	2,960	102	3,060
April	5,190	699	5,890	2,980	107	3,090
May	5,020	620	5,640	3,690	97	3,790

r/ Revised. XX Not applicable.

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

2/ Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

3/ Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content) 2/

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
2001:										
April	10,000	811	1,020	6	595	173	288	12,900	51,900 r/	67
May	9,740	474	857	--	467	450	238	12,200	64,200 r/	68
June	8,230	673	1,130	200 r/	563	415 r/	253	11,500 r/	75,600 r/	87
July	9,490	505	795	196 r/	548	274	207	12,000	87,600 r/	99
August	6,510	1,100	1,790	16	569	352	176	10,500	98,200 r/	82
September	7,980	438	1,080	120	238	294 r/	202	10,400	109,000 r/	156
October	11,200	617	160	263	434	265	279	13,200	122,000 r/	142
November	9,160	434	1,330	162	429	174	322	12,000	134,000 r/	54
December	8,360	640	707	188	344	193	276	10,700	144,000 r/	95
January-December	111,000	8,310	11,600	1,350	5,580	3,180 r/	3,200	144,000 r/	XX	1,140
2002:										
January	6,550	597	446	400	443	283	244	8,960	8,960	74
February	11,900	428	620	128	341	235	235	13,900	22,900	109
March	5,760 r/	813	679 r/	54	315	275 r/	277	8,180	31,000	30
April:										
Australia	234	40	--	--	--	--	--	274	2,880	--
Brazil	40	--	--	--	4	--	1	45	577	--
Canada	4,170	396	--	--	105	234	91	4,990	20,300	--
Colombia	--	--	191	--	--	7	--	198	599	--
Dominican Republic	--	--	618	--	--	--	--	618	1,050	--
Finland	200	101	--	--	--	--	22	323	1,720	--
France	83	--	--	--	7	1	20	111	866	21
Germany	100	(5/)	--	--	9	--	22	131	269	72
Japan	--	2	--	--	1	3	51	57	151	9
Mexico	--	--	--	--	--	76	1	77	320	--
New Caledonia	--	--	--	--	--	--	--	--	300	--
Norway	1,230	--	--	--	7	--	--	1,240	1,330	--
Russia	--	--	55	--	--	--	--	55	7,480	--
South Africa	20	--	--	--	--	--	--	20	101	--
Sweden	--	1	--	--	--	--	--	1	23	--
United Kingdom	2	7	--	--	29	--	10	48	333	8
Venezuela	--	--	119	--	--	8	--	127	485	--
Zimbabwe	136	--	--	--	--	--	--	136	450	(5/)
Other	--	4	--	--	59	20	56	139	444	6
Total	6,220	551	983	--	221	349	274	8,590	39,600	116
2002: January-April	30,400	2,390	2,730	582	1,320	1,140	1,030	39,600	XX	330
2001: January-April	40,600	3,420	3,750	202	1,990	757	1,250	51,900	XX	352

r/ Revised. XX Not applicable. -- Zero.

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

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide, and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content) 2/

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date	Wrought nickel
2001:										
April	69	134	4	172	1,280	2,550	338	4,550	21,300	256
May	74	122	3	136	1,810	3,320	445	5,910	27,200	552
June	166	162	--	95	1,480	2,680	219	4,800	32,000	49
July	154	73	12	161	1,370	3,520	452	5,740	37,700	99
August	90	108	11	205	1,160	1,600	224	3,400	41,100	116
September	156	115	1	161	1,030	1,970	178	3,610	44,800	151
October	170	90	14	142	1,740	2,680	346	5,180	49,900	177
November	158	85	--	132	1,100	1,350	148	2,970	52,900	124
December	125	72	(4/)	131	1,290	2,310	198	4,130	57,000	163
January-December	1,400	1,380	50	1,940	15,700	32,900	3,680	57,000	XX	2,400
2002:										
January	344	135	6	122	1,110	1,030	233	2,980	2,980	192
February	170	81	3	152	989	3,720	229	5,340	8,320	167
March	245	151	(4/)	64	1,470	2,040	219	4,190	12,500	262
April:										
Australia	--	1	--	--	1	--	--	2	35	--
Belgium	--	3	--	--	--	6	29	38	78	(4/)
Canada	24	59	--	65	1,060	242	50	1,500	5,030	10
Germany	--	8	--	1	36	44	6	95	276	--
India	6	(4/)	--	--	10	84	--	100	497	--
Italy	--	3	--	--	--	--	--	3	6	--
Japan	2	(4/)	--	(4/)	90	50	22	164	856	--
Korea, Republic of	12	3	--	--	27	950	45	1,040	3,500	2
Mexico	120	4	--	--	6	3	3	136	798	48
Netherlands	(4/)	1	--	--	9	2	8	20	256	5
South Africa	--	--	--	--	--	--	--	--	3	--
Spain	--	--	--	--	--	253	--	253	674	(4/)
Sweden	--	--	--	--	--	--	1	1	279	--
Taiwan	--	(4/)	--	(4/)	--	1,700	12	1,720	3,810	(4/)
United Kingdom	23	4	--	--	41	4	6	78	248	2
Other	--	27	--	1	1	552	44	625	1,950	72
Total	187	113	--	67	1,280	3,890	226	5,770	18,300	139
2002: January-April	945	481	10	405	4,850	10,700	907	18,300	XX	760
2001: January-April	308	551	8	777	4,740	13,400	1,470	21,300	XX	971

XX Not applicable. -- Zero.

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

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide, and hydroxide (65%).

3/ Excludes wrought nickel.

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2001:									
April	314	428	509	272	1	194	138	1,860	6,940
May	245	396	414	261	(2/)	442	175	1,930	8,870
June	276	366	423	238	(2/)	358	152	1,810	10,700
July	413	389	511	293	1	199	141	1,950	12,600
August	520	308	318	203	(2/)	148	159	1,660	14,300
September	357	161	247	202	(2/)	193	129	1,290	15,600
October	321	271	452	312	1	234	182	1,770	17,300
November	341	268	467	122	(2/)	153	143	1,490	18,800
December	350	354	342	300	1	140	126	1,610	20,400
January-December	4,110	3,860	5,030	3,070	15	2,600	1,770	20,400	XX
2002:									
January	353	231	399	329	--	203	155	1,670	1,670
February	183	177 r/	408	227 r/	1	248	154	1,400	3,070
March	256	207	407	293	(2/)	327	159	1,650	4,710
April:									
Australia	182	7	--	--	--	--	--	189	497
Belgium	32	--	--	1	--	(2/)	--	33	52
Canada	3	(2/)	--	--	--	3	12	18	109
France	(2/)	10	86	2	--	3	(2/)	101	389
Germany	1	132	171	245	(2/)	66	1	616	2,350
Italy	--	41	1	--	--	2	20	64	243
Japan	17	--	2	(2/)	--	143	1	163	630
Mexico	--	--	--	--	--	--	83	83	331
Netherlands	--	--	--	--	--	--	6	6	25
South Africa	17	--	--	--	--	--	--	17	154
Sweden	--	18	227	2	--	15	--	262	888
United Kingdom	44	17	16	4	--	1	1	83	489
Other	94	4	28	--	(2/)	(2/)	27	153	342
Total	390	229	531	254	(2/)	233	151	1,790	6,500
2002: January-April	1,180	844	1,740	1,100	1	1,010	618	6,500	XX
2001: January-April	1,290	1,340	1,860	1,140	12	736	565	6,940	XX

r/ Revised. XX Not applicable. -- Zero.

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

2/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 7
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2001:									
April	633	579	174	656	38	307	425	2,810	10,800
May	1,170	722	156	420	12	179	243	2,900	13,700
June	1,210	648	184	668	4	128	221	3,060	16,700
July	1,420	744	106	615	9	163	263	3,320	20,100
August	1,240	642	165	548	5	129	354	3,080	23,100
September	1,610	667	97	543	6	155	390	3,470	26,600
October	1,300	601	171	770	13	107	950	3,920	30,500
November	1,190	641	135	623	23	124	333	3,070	33,600
December	954	591	82	404	7	164	160	2,360	36,000
January-December	13,400	7,890	1,660	7,030	146	1,900	3,970	36,000	XX
2002:									
January	861 r/	599	93	572	9	134	247	2,520 r/	2,520 r/
February	808	600	106	596	43	115	340	2,610	5,120
March	884	626	178	505	11	197	653	3,050	8,180
April:									
Australia	38	(2/)	(2/)	--	--	--	2	40	233
Belgium	--	153	1	3	--	(2/)	(2/)	157	806
Canada	44	56	21	27	7	64	42	261	1,160
France	352	33	1	6	1	--	10	403	1,980
Germany	64	14	1	26	(2/)	(2/)	10	115	482
India	--	2	(2/)	2	(2/)	(2/)	--	4	51
Ireland	--	--	1	3	--	--	(2/)	4	26
Italy	12	1	18	3	(2/)	(2/)	3	37	509
Japan	(2/)	6	2	67	--	(2/)	2	77	393
Korea, Republic of	9	12	3	18	--	(2/)	2	44	169
Mexico	(2/)	6	31	3	3	76	105	224	1,120
Netherlands	--	1	--	1	--	1	1	4	22
Singapore	7	4	4	3	(2/)	(2/)	(2/)	18	60
Spain	--	(2/)	--	(2/)	--	(2/)	1	1	21
Sweden	--	2	(2/)	(2/)	(2/)	--	1	3	22
Switzerland	42	1	--	29	--	2	(2/)	74	317
Taiwan	(2/)	(2/)	--	14	(2/)	5	3	22	81
United Kingdom	47	91	6	171	(2/)	10	27	352	1,640
Other	3	69	7	100	1	46	69	295	1,230
Total	618	451	96	476	12	204	278	2,130	10,300
2002: January-April	3,170	2,280	473	2,150	76	650	1,520	10,300	XX
2001: January-April	3,270	2,630	565	2,440	66	749	1,050	10,800	XX

r/ Revised. XX Not applicable. -- Zero.

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

2/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
May 2002:		
Stainless and heat resisting steels	75	25
Alloy steels	100	(1/)
Superalloys	83	17
Copper-nickel alloys	91	9
Other nickel-base alloys	100	(1/)

1/ Less than 1/2 unit.

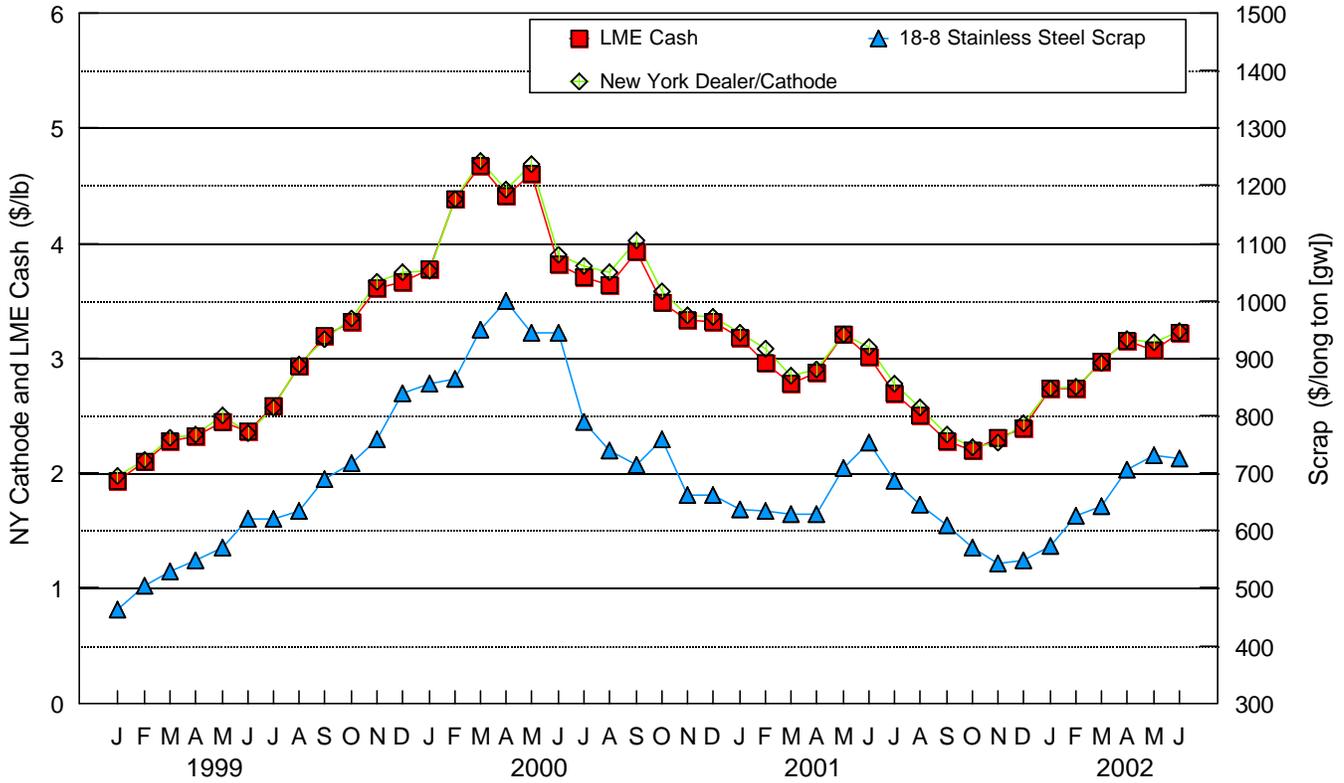
TABLE 9
NICKEL PRICES

Date	Cathode NY Dealer \$/lb.	LME Cash \$/t	LME Cash \$/lb.	18/8 Stainless steel scrap Pittsburgh \$/long ton (gw)
2002:				
Average for week ending:				
May 3	3.22-3.30	6,955.000	3.155	700-710
May 10	3.15-3.29	6,948.125	3.152	725-750
May 17	3.18-3.31	6,866.000	3.114	725-750
May 24	3.04-3.19	6,544.000	2.968	725-750
May 31	3.06-3.15	6,647.500	3.015	725-750
June 7	3.07-3.30	7,045.000	3.196	720-730
June 14	3.26-3.29	6,995.000	3.173	720-730
June 21	3.24-3.47	7,320.500	3.321	720-730
June 28	3.28-3.37	7,089.000	3.216	720-730
Average for month of:				
January	2.736	6,043.182	2.741	573
February	2.745	6,029.250	2.735	625
March	2.963	6,537.500	2.965	643
April	3.163	6,958.214	3.156	705
May	3.130	6,761.364	3.067	731
June	3.213	7,119.861	3.230	725

Sources: Platts Metals Week and American Metal Market.

1999-2002 AVERAGE MONTHLY PRICES

(Derived from Metals Week and American Metal Market quotations)



1999-2002 STOCKS

