

# Mineral Industry Surveys

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## NICKEL IN SEPTEMBER 2004

Reported domestic consumption in September, on a daily average basis, was 6% less than that of August, according to the U.S. Geological Survey. Average daily nickel consumption of cathode, pellets, briquets, powder, and ferronickel for stainless steel was 55.5 metric tons per day (t/d), 18% less than the 67.8 t/d for August 2004 and 29% less than the 78.5 t/d (revised) for September 2003. Consumption of >99.8% nickel metal to make superalloys (such as INCONEL 718 and WASPALOY) increased 33% from August levels, on a daily average basis. In contrast, consumption to make corrosion-resistant, less stress-resistant nickel-base alloys (such as INCONEL 600 and Nickel 200) decreased by 7%. Sales to plating companies averaged 30.8 t/d, about 8% greater than the August sales figure of 28.6 t/d.

On September 30, U.S. consumer stocks of cathode, pellets, briquets, and powder totaled 1,530 metric tons (t), 2% greater than the 1,490 t (revised) on August 31 and 9% greater than the 1,390 t reported for yearend 2003. Stocks in London Metal Exchange (LME) warehouses worldwide totaled 14,322 t on September 30, 24% greater than the 11,592 t on August 31.

The United States imported 89,100 t of primary nickel in the first 8 months of 2004, 2% more than the 87,100 t for the corresponding period of 2003. Trade data for September will appear in a subsequent report.

### Update: New Michigan underground mining law

On December 27, 2004, the State of Michigan enacted a law regulating the underground mining of sulfide ores for nonferrous metals. The new law (Public Act No. 449 of 2004) is designed to protect the environment, while ensuring that mining companies can develop economically promising sulfide deposits in Michigan. The new law represents a compromise between the mining industry and environmental/conservation groups, and was triggered by the exploration activities of the Kennecott Minerals Company and Bitterroot Resources, Ltd. in the Upper Peninsula (Eggert, 2004<sup>1</sup>; Flesher, 2004<sup>§</sup>).

Although mining of native copper in the Keweenaw-Houghton area of the Upper Peninsula began in 1844, Michigan had no law prior to 2005 that specifically regulated the development and operation of underground native copper or

sulfide mines. The new law also requires a mining company to restore the mine site to its original, self-sustaining condition when mining ceases. The legislation amends and updates Michigan's earlier mining reclamation law (Public Act No. 451 of 1994), which applies primarily to open pit mining of iron ore.

At the present time, there are no active underground metal mines operating in Michigan. However, Kennecott is considering developing an underground nickel-copper mine in the Yellow Dog Plains area of Marquette County. Kennecott supported the underground mining legislation during the enactment process. The mining company is a subsidiary of London-based Rio Tinto Plc and is headquartered in Salt Lake City, UT (Kennecott Minerals Co., 2004b).

The new mining law sets up a permitting system to oversee underground sulfide mining. The Michigan Department of Environmental Quality (DEQ) will be responsible for issuing the necessary permits. Public hearings must be held during the review of all permit applications. As part of the application process, mining companies must submit plans to the DEQ that cover all aspects of development, operation, monitoring, and decommissioning. The DEQ has until December 31, 2005, to create more specific rules for mine construction, operation, and decommissioning. The DEQ is expected to initially focus on minimizing the generation of acid mine drainage (AMD) waters and preventing their escape offsite. Conservation groups and residents of the Upper Peninsula are especially concerned about AMD contaminating ground water or environmentally sensitive surface waters.

In October 2003, Kennecott formally announced its evaluation study, now called the Eagle Project. The announcement immediately raised concerns among environmentalists and local residents (Federal Reserve Bank of Minneapolis, 2004<sup>§</sup>; Rebers, 2003<sup>§</sup>). In response to those concerns, Kennecott has established a community advisory group to provide advice and share ideas about the project.

On April 1, 2004, the Eagle Project was advanced from an exploration project to a potential development project. The proposed mine site is about 40 kilometers (25 miles) northwest of the city of Marquette. Kennecott geologists estimate that the deposit contains 5 million metric tons of sulfide ore grading 3.5% Ni and 3.0% copper. Kennecott is currently conducting environmental, economic, and engineering studies to determine

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

the feasibility of the project. The proposed mine would be the only primary nickel mine in the United States (Kennecott Minerals Co., 2004a).

Kennecott was still evaluating the project in early 2005 and has not yet applied for a permit. The deposit is near the headwaters of the Salmon Trout River, a spawning and nursery ground for the rare Coaster Brook Trout. Kennecott is conducting a series of environmental baseline studies to document the health of the area's watershed. The company also has begun a project to replace stream crossings—conservation work that should improve the health and vitality of the headwaters of the Salmon Trout River as well as the river's overall ecosystem (National Mining Association, 2004§).

### References Cited

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

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
2003:					
September	4,320	844	28	5,190	46,000
October	4,840	911	32	5,780	51,800
November	4,470	1,190	30	5,690	57,500
December	4,130	902	30	5,060	62,500
January-December	53,500	8,620	412	62,500	XX
2004:					
January	4,290	595	34	4,920	4,920
February	4,940	455	26	5,420	10,300
March	5,010	529	36 <sup>r</sup>	5,580	15,900
April	4,660	458	52	5,170	21,100
May	5,250	528	27	5,810	26,900
June	5,210	556	39	5,800	32,700
July	4,840 <sup>r</sup>	536	43	5,420 <sup>r</sup>	38,100 <sup>r</sup>
August	4,850 <sup>r</sup>	677	36	5,560 <sup>r</sup>	43,700 <sup>r</sup>
September:					
Steel:					
Stainless and heat resisting	1,200	465	W	1,670	18,000
Alloy (excludes stainless)	W	--	--	W	W
Superalloys	1,040	--	W	1,040	8,690
Copper-nickel alloys	W	--	--	W	W
Electric, magnetic, and expansion alloys	10	--	--	10	102
Other nickel & nickel alloys	W	--	W	W	W
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	925	--	--	925	8,060
Chemical and chemical uses	W	--	--	W	W
Other uses	1,340	--	47	1,390	13,900
Total reported	4,520 <sup>2</sup>	465	47	5,030	48,700
Total all companies (calc) <sup>3</sup>	XX	XX	XX	8,840	85,600
2004: January-September	43,600	4,800	341	48,700	XX
2003: January-September	40,100	5,610	321	46,000	XX

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

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

<sup>2</sup>Of consumption, 3,570 metric tons was consumed as cathodes and pellets, the remainder as briquets and powder.

<sup>3</sup>Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (56.93%) to apparent primary consumption for 2002.

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

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder		Ferronickel	Oxide-sinter, salts, and other forms	Total
2003:					
September	1,280		99	52	1,430
October	1,360		109	60	1,530
November	1,410		227	59	1,690
December	1,390		260	46	1,700
2004:					
January	1,390		186	55	1,630
February	1,660		111	44	1,810
March	1,630		108	40	1,780
April	1,760		227	34	2,020
May	1,360		158	42	1,560
June	1,450		185	45	1,680
July	1,290		147	30	1,470
August	1,490 <sup>r</sup>		139	42	1,670 <sup>r</sup>
September:					
Steel (stainless, heat resisting and alloy)	695		167	(3)	862
Nonferrous alloys <sup>4</sup>	818		--	(3)	818
Foundry (cast irons)	(3)		--	--	(3)
Chemical (catalysts, ceramics, plating salt, etc.) and unspecified uses	12		--	41	53
Total	1,530		167	41	1,730

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>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 adjustments.

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

<sup>4</sup>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<sup>1</sup>

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap <sup>2</sup>	Nonferrous scrap <sup>3</sup>	Total scrap	Ferrous scrap <sup>2</sup>	Nonferrous scrap <sup>3</sup>	Total scrap
2003:						
September	3,810	732	4,540	3,290	108	3,400
October	5,350	756	6,110	3,110	101	3,210
November	4,960	668	5,620	2,950	97	3,050
December	4,930	647	5,580	2,810	85	2,900
January-December	57,600	8,330	65,900	XX	XX	XX
2004:						
January	5,050	698	5,750	2,700	73	2,770
February	4,780	708	5,490	2,710	79	2,790
March	5,520	937	6,460	3,270	80	3,350
April	5,280	865	6,140	2,950	82	3,030
May	5,210	801	6,010	2,730	63	2,790
June	5,090	804	5,890	2,750	85	2,830
July	4,850	675	5,520	2,640	76	2,720
August	5,010	952	5,970	2,410	74	2,480
September	4,390	812	5,200	2,800	77	2,880
January-September	45,200	7,250	52,400	XX	XX	XX

XX Not applicable.

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

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

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

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

(Metric tons, nickel content)<sup>2</sup>

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 <sup>3</sup>	Total year to date <sup>4</sup>	Wrought nickel
2003:										
August	7,420	762	913	(5)	477	475	544	10,600	93,600	62
September	9,990	1,030	1,180	(5)	570	744	248	13,800	107,000	48
October	7,270	565	1,010	20	326	715	255	10,200	118,000	34
November	7,030	625	932	--	318	889	324	10,100	128,000	28
December	6,230	860	471	(5)	530	821	284	9,190	137,000	34
January-December	99,300	9,130	13,100	90	4,790	6,690	3,790	137,000	XX	660
2004:										
January	7,360	829	1,040	40	489	933	435	11,100	11,100	77
February	7,200	834	1,070	161	667	1,020	485	11,400	22,600	49
March	10,700	812	806	134	1,430	1,660	376	15,900	38,400	72
April	10,700	720	1,680	23	574	908	296	14,900	53,400	53
May	8,530	564	941	--	698	680	381	11,800	65,200	55
June	9,190	732	978	--	553	680	324	12,500	77,600	86
July	7,370	914	1,070	--	624	663	374	11,000	88,600	79 <sup>r</sup>
August:										
Australia	1,780	60	--	--	15	--	--	1,860	7,740	--
Brazil	--	--	--	--	--	--	--	--	1,430	--
Canada	4,510	450	--	24	106	746	--	5,840	45,500	(5)
Colombia	--	--	388	--	--	--	--	388	2,190	--
Dominican Republic	--	--	451	--	--	--	--	451	5,070	--
Finland	396	41	--	--	--	--	222	659	4,520	--
France	98	--	--	--	165	--	11	274	1,540	15
Germany	1	1	--	--	72	--	27	101	1,420	49
Japan	--	10	--	(5)	4	--	48	62	613	18
Mexico	--	--	--	--	27	154	1	182	1,610	--
New Caledonia	--	--	100	--	--	--	--	100	750	--
Norway	1,740	--	--	--	--	--	--	1,740	10,600	--
Russia	1,170	40	--	--	--	--	--	1,210	12,600	--
South Africa	--	60	--	--	--	--	--	60	598	--
Sweden	--	--	--	--	--	--	--	--	38	--
United Kingdom	35	136	--	--	169	--	5	345	2,450	1
Venezuela	--	--	--	--	--	17	--	17	383	--
Zimbabwe	40	--	--	--	--	--	--	40	581	--
Other	--	2	83 <sup>6</sup>	--	27	11	120	243	2,590 <sup>6</sup>	33
Total	9,770	800	1,020	24	585	928	434	13,600	102,000	116
2004: January-August	70,800	6,200	8,600	381	5,620	7,470	3,110	102,000	XX	586
2003: January-August	68,800	6,060	9,510	70	3,050	3,520	2,690	93,700	XX	514

<sup>r</sup>Revised. XX Not applicable. -- Zero.

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

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

<sup>3</sup>Excludes wrought nickel.

<sup>4</sup>May include revisions for prior months.

<sup>5</sup>Less than 1/2 unit.

<sup>6</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

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

(Metric tons, nickel content)<sup>2</sup>

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 <sup>3</sup>	Total year to date	Wrought nickel
2003:										
August	56	77	37	1	792	3,040	301	4,300	37,500	162
September	107	106	18	51	707	2,350	223	3,560	41,100	148
October	133	153	12	4	1,010	3,270	276	4,850	45,900	141
November	210	127	1	5	819	1,600	371	3,130	49,000	102
December	44	92	10	4	809	3,190	441	4,590	53,600	72
January-December	996	1,100	181	161	9,460	37,800	3,900	53,600	XX	2,890
2004:										
January	52	129	15	5	657	2,370	399	3,630	3,630	153
February	85	166	--	17	540	2,550	396	3,750	7,380	54
March	116	150	(4)	8	1,000	3,800	497	5,570	12,900	59
April	144	132	3	8	1,070	2,660	563	4,570	17,500	227
May	54	127	23	4	1,290	3,100	323	4,920	22,400	120
June	187	138	3	4	1,310	4,720	567	6,930	29,400	65
July	18	171	(4)	2	1,160	2,600	473	4,420	33,800	100
August:										
Australia	--	--	--	--	--	(4)	--	(4)	7	--
Belgium	--	7	--	--	--	6	--	13	204	--
Canada	--	10	--	--	1,010	117	26	1,160	9,820	10
China	--	63	--	--	--	1,180	(4)	1,240	6,720	(4)
Finland	--	--	--	--	16	443	(4)	459	4,150	--
Germany	(4)	11	--	--	14	5	3	33	540	1
India	--	1	--	--	--	120	4	125	1,300	1
Italy	--	2	--	--	--	--	18	20	65	2
Japan	2	4	--	(4)	35	28	13	82	734	2
Korea, Republic of	--	10	--	--	1	106	5	122	5,640	4
Mexico	36	5	--	--	--	5	14	60	717	33
Netherlands	--	(4)	--	--	--	19	--	19	989	--
South Africa	--	--	--	1	--	--	--	1	28	--
Spain	--	--	--	--	--	3	(4)	3	323	--
Sweden	--	--	--	--	--	--	--	--	236	--
Taiwan	1	1	--	--	--	193	4	199	2,400	(4)
United Kingdom	--	12	--	--	55	1	34	102	806	2
Other	1	46	--	(4)	64	109	79	298	3,050	13
Total	39	172	--	1	1,190	2,330	200	3,940	37,700	68
2004: January-August	697	1,190	43	48	8,210	24,100	3,420	37,700	XX	846
2003: January-August	502	618	140	96	6,120	27,400	2,590	37,500	XX	2,430

XX Not applicable. -- Zero.

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

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

<sup>3</sup>Excludes wrought nickel.

<sup>4</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

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

(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
2003:									
August	151	78	469	319	32	322	154	1,530	12,400
September	48	239	406	211	10	115	95	1,120	13,500
October	204	307	443	305	15	162	95	1,530	15,000
November	195	239	331	210	23	89	156	1,240	16,300
December	314	169	388	215	45	704	147	1,980	18,300
January-December	1,910	2,520	5,750	3,330	214	2,770	1,770	18,300	XX
2004:									
January	102	278	286	193	14	134	133	1,140	1,140
February	165	214	362	251	8	374	238	1,610	2,750
March	102	166 <sup>†</sup>	446	213	18	363	459	1,770	4,520
April	345	255	504	164	44	773	172	2,260	6,770
May	123 <sup>†</sup>	269 <sup>†</sup>	494	131	14	231	115	1,380	8,150
June	227	344	517	301	40	136	100	1,670	9,820
July	271	322 <sup>†</sup>	504 <sup>†</sup>	192	32	140	87	1,550 <sup>†</sup>	11,400
August:									
Australia	101	--	--	--	--	(2)	(2)	101	558
Belgium	--	--	5	3	--	--	(2)	8	87
Canada	--	(2)	(2)	--	--	4	1	5	125
China	--	1	--	--	--	(2)	17	18	249
France	--	--	171	8	--	23	1	203	1,110
Germany	106	139	176	219	30	46	6	722	5,200
Italy	--	73	4	--	--	1	1	79	1,040
Japan	--	--	6	2	--	3	1	12	569
Mexico	--	--	(2)	--	(2)	--	33	33	324
Netherlands	--	--	(2)	--	(2)	(2)	26	26	135
South Africa	39	--	--	--	--	--	--	39	241
Sweden	--	13	108	4	--	--	--	125	2,010
United Kingdom	20	13	3	(2)	1	12	4	53	769
Other	58	12	23	1	--	(2)	19	112	490
Total	324	251	496	236	31	89	109	1,540	12,900
2004: January-August	1,660	2,100	3,610	1,680	200	2,240	1,410	12,900	XX
2003: January-August	1,150	1,570	4,190	2,390	121	1,700	1,280	12,400	XX

<sup>†</sup>Revised. XX Not applicable. -- Zero.

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

<sup>2</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

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

(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
2003:									
August	708	707	112	344	30	228	201	2,330	18,000
September	597	623	80	281	52	140	271	2,040	20,100
October	206	802	55	396	55	255	253	2,020	22,100
November	274	621	121	382	49	254	208	1,910	24,000
December	379	571	69	350	107	203	199	1,880	25,900
January-December	6,660	7,960	1,190	3,960	661	2,420	3,050	25,900	XX
2004:									
January	522	731	155	366	9	118	231	2,130	2,130
February	543	777	155	343	15	172	299	2,300	4,440
March	980	640	92	491	30	184	333	2,750	7,190
April	283	649	99	472	22	144	303	1,970	9,160
May	457	976	168	334	46	119	543	2,640	11,800
June	511	722	130	427	33	170	272	2,270	14,100
July	614	1,100	177	350	11	132	244	2,630	16,700
August:									
Australia	--	1	1	(2)	--	1	1	4	191
Belgium	130	116	3	(2)	--	--	1	250	1,570
Canada	101	38	9	17	2	17	11	195	1,890
China	--	15	1	22	--	3	43	84	736
France	40	109	1	21	(2)	(2)	(2)	171	2,330
Germany	7	68	7	24	3	4	2	115	794
India	(2)	14	(2)	1	(2)	3	--	18	77
Ireland	(2)	--	(2)	(2)	--	(2)	1	1	14
Italy	1	4	1	6	--	1	4	17	762
Japan	292	53	3	8	(2)	(2)	1	357	2,280
Korea, Republic of	(2)	7	3	3	--	8	(2)	21	703
Mexico	(2)	19	116	25	4	41	124	329	2,090
Netherlands	--	1	2	4	--	4	1	12	212
Singapore	1	3	(2)	--	--	11	1	16	94
Spain	2	--	(2)	1	--	1	1	5	49
Sweden	(2)	--	(2)	15	--	(2)	1	16	117
Switzerland	14	2	11	5	(2)	4	(2)	36	190
Taiwan	(2)	--	(2)	15	(2)	1	1	17	286
United Kingdom	26	262	9	10	1	7	12	327	2,650
Other	15	48	9	57	(2)	17	16	162	1,800
Total	629	760	176	234	10	123	221	2,150	18,800
2004: January-August	4,540	6,360	1,150	3,020	175	1,160	2,450	18,800	XX
2003: January-August	5,210	5,340	861	2,550	399	1,570	2,120	18,000	XX

XX Not applicable. -- Zero.

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

<sup>2</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8  
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
September 2004:		
Stainless and heat resisting steels	75	25
Alloy steels	99	1
Superalloys	90	10
Copper-nickel alloys	90	10
Other nickel-base alloys	100	(1)

<sup>1</sup>Less than 1/2 unit.

TABLE 9  
NICKEL PRICES

Date	Platts Metals Week				American Metal Market,
	Cathode NY Dealer \$/lb.	LME Cash mean <sup>1</sup> \$/t	LME Cash mean <sup>1</sup> \$/lb.	18/8 Stainless steel scrap Free market \$/long ton (gw)	18/8 Stainless steel scrap Pittsburgh \$/long ton (gw)
2003:					
Average for month of:					
September	4.668	9,965.341	4.520	978	985
October	5.066	11,047.174	5.011	1,041	1,013
November	5.568	12,086.500	5.482	1,153	1,160
December	6.390	14,162.500	6.424	1,262	1,222
Yearly average	4.446	9,629.469	4.368	961	942
2004:					
Average for week ending:					
September 3	6.01-6.31	12,738.125	5.778	1,425-1,475	1,460-1,480
September 10	5.74-5.94	12,285.000	5.572	1,425-1,475	1,460-1,480
September 17	5.83-6.24	12,790.000	5.801	1,350-1,400	1,460-1,480
September 24	6.10-6.79	13,911.500	6.310	1,350-1,400	1,460-1,480
October 1	6.88-7.10	14,926.000	6.770	1,350-1,400	1,460-1,480
October 8	7.42-7.70	16,097.000	7.301	1,400-1,500	1,460-1,480
October 15	6.40-7.78	14,618.000	6.631	1,350-1,450	1,460-1,480
October 22	6.26-6.46	13,422.500	6.088	1,350-1,450	1,460-1,480
October 29	6.01-6.35	13,239.000	6.005	1,350-1,450	1,460-1,480
November 5	6.35-6.73	13,801.500	6.260	1,475-1,525	1,550-1,575
November 12	6.46-6.66	13,995.500	6.348	1,475-1,525	1,550-1,575
November 19	6.71-6.76	14,261.500	6.469	1,500-1,525	1,550-1,575
Average for month of:					
January	6.900	15,326.548	6.952	1,517	1,463
February	6.968	15,145.125	6.870	1,537	1,585
March	6.203	13,715.000	6.221	1,458	1,563
April	6.056	12,848.125	5.828	1,397	1,503
May	5.185	11,118.289	5.043	1,281	1,367
June	6.063	13,533.523	6.139	1,241	1,208
July	6.990	15,023.295	6.814	1,430	1,402
August	6.320	13,679.524	6.205	1,481	1,560
September	6.112	13,270.909	6.020	1,405	1,470
October	6.523	14,404.286	6.534	1,413	1,470

<sup>1</sup>Mean of the cash buyer price and the cash seller and settlement price.

