

# Mineral Industry Surveys

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## PLATINUM-GROUP METALS IN APRIL 2012

Engelhard's average April prices for platinum and palladium each decreased by 4%, and that for rhodium decreased by 7% compared with average March prices. The average monthly ruthenium price decreased by 9%, and that for iridium remained unchanged during the same period. The lower monthly average prices were the result of the global economic situation and concerns about the financial stability of the euro area. Prices for palladium, platinum, and rhodium decreased early in the month. Platinum prices continued to decrease throughout the rest of the month owing to decreased investment demand in response to continuing global economic uncertainties. In contrast, palladium prices increased throughout the rest of the month in response to news of increased automobile sales in China, the Republic of Korea, and the United States. Palladium is used in automobile catalytic converters to reduce harmful emissions. Platinum prices were lower than those for gold for the seventh straight month and higher than those for rhodium for the fourth straight month.

Stillwater Mining Co. (Billings, MT) produced 3,760 kilograms (kg) of platinum and palladium during the first quarter of 2012, an 8% decrease compared with production during the first quarter of 2011 and a 6% increase compared with that of the fourth quarter of 2011. The fluctuations were the result of changes in mining conditions and the allocation of manpower. First quarter 2012 production included 809 kg of palladium and 218 kg of platinum from the East Boulder Mine, and 2,120 kg of palladium and 622 kg of platinum from the Stillwater Mine. Production guidance for 2012 continued to be 15,600 kg of platinum and palladium. About 3,340 kg of palladium, platinum, and rhodium were recovered from recycled spent automobile catalytic converters, a 7% decrease compared with recycling volume in the first quarter of 2011. The lower recycling volume reflected lower platinum-group metals prices in early 2012 relative to those of early 2011 (Stillwater Mining Co., 2012).

Magma Metals Ltd. (Perth, Western Australia, Australia) increased its resource estimate for the Thunder Bay North platinum-palladium-copper-nickel project in northwestern Ontario, Canada. The underground indicated and inferred mineral resource was 6,440 platinum-equivalent kg, which was

a 53% increase compared with previous estimates. Indicated and inferred resources for the total project, including both open pit and underground mines, was 24,400 platinum-equivalent kg, an increase of 10% relative to previous estimates. Magma Metals planned to continue drilling in order to further define the deposit, and was studying mineral processing techniques to improve recovery. No date was given for planned mine startup (Magma Metals Ltd., 2012, p. 1).

Colossus Minerals Inc. (Toronto, Ontario, Canada) continued development of its Serra Pelada gold-platinum-palladium project in Brazil. Colossus completed about 950 meters (m) of an underground decline, to a vertical depth of 135 m, and needed to complete an additional 350 m of decline development to access the mineralization. Colossus was on track to extract a 2,500-metric-ton bulk sample and to complete metallurgical test work in the second half of 2012. Engineering began for the gravity processing plant, and completion was expected in the first quarter of 2013. Procurement of mining equipment was 95% complete with 80% of the equipment already on site. Four generators were on site and work was progressing on the infrastructure necessary to distribute power. Commercial production was expected to begin in 2013. No annual production guidance was given (Colossus Minerals Inc., 2012).

OJSC MMC Norilsk Nickel (Moscow, Russia) produced 20,200 kg of palladium and 5,160 kg of platinum during the first quarter of 2012. These were decreases of 5% and 2%, respectively, relative to production in the first quarter of 2011. Decreased production was the result of the accumulation of stockpiles of unprocessed material (OJSC MMC Norilsk Nickel, 2012).

### References Cited

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TABLE 1  
PLATINUM-GROUP METALS PRICES<sup>1</sup>

(Dollars per troy ounce)

	Platinum	Palladium	Rhodium	Iridium	Ruthenium
<b>2011:</b>					
Low/date	1,356.00 Dec. 29	553.00 Oct. 5	1,400.00 Dec. <sup>2</sup>	780.00 Jan. 3 and 4	110.00 Dec. <sup>2</sup>
High/date	1,892.00 Aug. 22 and 23	851.00 Feb. 18	2,500.00 Jan. 31 and Feb. <sup>2</sup>	1,085.00 Sep.–Dec. <sup>2</sup>	180.00 Jan.–Aug. <sup>2</sup>
Average	1,724.51	738.51	2,024.35	1,035.87	165.85
<b>2012:</b>					
<b>March:</b>					
Low/date	1,610.00/22	656.00/30	1,400.00/29 and 30	1,075.00 <sup>2</sup>	120.00 <sup>2</sup>
High/date	1,709.00/2	718.00/2	1,525.00 <sup>2</sup>	1,075.00 <sup>2</sup>	130.00 <sup>2</sup>
Average	1,660.05	689.86	1,484.09	1,075.00	126.59
<b>April:</b>					
Low/date	1,554.00/24	640.00/5	1,375.00 <sup>2</sup>	1,075.00 <sup>2</sup>	115.00 <sup>2</sup>
High/date	1,664.00/3	684.00/30	1,400.00/2 and 3	1,075.00 <sup>2</sup>	120.00/2
Average	1,590.85	660.65	1,384.25	1,075.00	115.25
<b>January–April:</b>					
Low/date	1,410.00 Jan. 9	620.00 Jan. 9	1,350.00 Jan. <sup>2</sup>	1,075.00 Feb.–Apr. <sup>2</sup>	110.00 Jan. <sup>2</sup>
High/date	1,731.00 Feb. 29	727.00 Feb. 29	1,540.00 Feb. 14 and 15	1,085.00 Jan.–Feb. <sup>2</sup>	130.00 Feb.–Mar. <sup>2</sup>
Average	1,606.36	680.47	1,442.58	1,078.50	120.07

<sup>1</sup>Quotes from Engelhard.

<sup>2</sup>Occurred multiple days in month(s) listed.

Source: Platts Metals Week.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM METAL, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Platinum grain and nuggets		Platinum sponge		Other unwrought platinum		Platinum, other		Platinum waste and scrap		Platinum coins	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)
2011	1,230	\$65,700	35,800	\$1,910,000	7,160	\$211,000	4,660 <sup>†</sup>	\$206,000	78,900	\$832,000	1,200	\$66,300
2012:												
January	90	4,400	2,350	109,000	313	12,800	439	16,600	1,590	66,100	121	5,850
February	142	6,590	1,550	79,800	245	10,800	543	24,600	2,310	88,300	57	2,890
March:												
Australia	--	--	--	--	--	--	--	--	14	450	(2)	2
Belgium	--	--	107	6,140	--	--	--	--	--	--	--	--
Brazil	--	--	--	--	--	--	(2)	4	34	1,140	--	--
Canada	1	43	--	--	--	--	15	821	2,080	3,790	86	4,720
China	--	--	--	--	37	2,030	6	212	404	9,000	--	--
Colombia	--	--	--	--	92	4,390	7	301	16	539	--	--
Czech Republic	--	--	--	--	--	--	3	186	--	--	--	--
France	--	--	--	--	16	812	--	--	108	5,940	--	--
Germany	5	220	153	8,600	218	8,720	250	9,690	1,660	30,400	--	--
Guatemala	--	--	--	--	--	--	--	--	4	142	--	--
Israel	--	--	--	--	--	--	--	--	7	235	--	--
Italy	--	--	297	16,100	--	--	--	--	143	4,670	--	--
Japan	--	--	21	1,140	4	112	7	186	201	8,650	--	--
Malaysia	--	--	--	--	--	--	--	--	54	1,430	--	--
Mexico	--	--	--	--	--	--	--	--	728	8,760	--	--
Norway	--	--	312	16,400	--	--	--	--	--	--	--	--
Philippines	--	--	--	--	--	--	--	--	6	233	--	--
Poland	--	--	--	--	10	533	--	--	--	--	--	--
Russia	--	--	17	881	--	--	--	--	--	--	--	--
Saudi Arabia	--	--	--	--	--	--	--	--	353	18,700	--	--
Singapore	--	--	--	--	40	2,650	--	--	20	659	--	--
South Africa	244	12,100	1,960	103,000	--	--	--	--	1	27	--	--
Switzerland	--	--	--	--	--	--	--	--	--	--	31	1,720
Thailand	(2)	16	--	--	--	--	--	--	(2)	3	--	--
United Kingdom	--	--	829	43,900	--	--	23	1,010	66	2,170	--	--
Other	--	--	--	--	--	--	2	93	4	148	--	--
Total	250	12,400	3,700	196,000	416	19,200	312	12,500	5,890	97,100	117	6,440
January–March	482	23,400	7,600	385,000	973	42,800	1,300	53,700	9,800	252,000	295	15,200

<sup>†</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>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Unwrought palladium		Palladium, other		Iridium <sup>2</sup>		Osmium <sup>2</sup>		Ruthenium <sup>2</sup>		Rhodium <sup>2</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2011	87,000	\$1,890,000	11,900	\$268,000	2,880	\$59,400	48	\$261	13,200	\$69,300	13,100	\$844,000
2012:												
January	2,330	47,500	988	23,100	65	2,200	--	--	882	2,620	1,720	79,400
February	7,030	151,000	1,040	22,200	75	2,470	--	--	1,580	5,140	859	39,400
March:												
Belgium	124	3,510	72	1,620	--	--	--	--	--	--	41	1,950
Canada	--	--	160	4,680	--	--	--	--	--	--	--	--
China	--	--	--	--	--	--	--	--	--	--	4	205
Germany	280	6,600	47	1,050	3	41	--	--	120	547	124	6,190
Italy	429	9,510	6	142	--	--	--	--	--	--	27	1,450
Japan	749	15,400	22	63	--	--	--	--	--	--	--	--
Norway	533	12,200	--	--	--	--	--	--	--	--	19	861
Russia	1,120	25,300	474	10,700	1	24	--	--	--	--	108	5,080
South Africa	1,530	35,200	182	4,130	343	10,800	--	--	746	2,620	603	27,500
Switzerland	2,980	67,300	13	318	--	--	--	--	--	--	--	--
United Kingdom	305	6,930	10	274	1	22	--	--	841	3,430	7	261
Other	(3)	4	--	--	--	--	--	--	--	--	--	--
Total	8,050	182,000	986	22,900	348	10,900	--	--	1,710	6,600	933	43,500
January–March	17,400	381,000	3,010	68,200	486	15,600	--	--	4,170	14,400	3,510	162,000

-- Zero.

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

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Platinum						Iridium, osmium, and ruthenium <sup>2,3</sup>		Rhodium <sup>2</sup>	
	Platinum <sup>2</sup>		waste and scrap		Palladium <sup>2</sup>		Value		Value	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2011	11,300	\$552,000	118,000	\$1,440,000	32,000	\$416,000	1,150	\$18,000	1,370	\$71,700
2012:										
January	483	20,100	8,610	70,300	2,060	27,800	40	421	35	2,480
February	856	43,100	3,500	72,000	3,030	39,200	68	649	152	6,700
March:										
Argentina	104	4,200	--	--	--	--	--	--	--	--
Australia	3	139	--	--	88	1,090	1	17	--	--
Austria	4	158	--	--	1	22	--	--	--	--
Belgium	2	41	48	1,430	1	4	1	3	--	--
Canada	11	528	--	--	554	5,520	--	--	(4)	4
China	1	27	15	757	142	2,240	--	--	7	502
Colombia	(4)	3	--	--	24	208	--	--	--	--
Czech Republic	--	--	--	--	19	34	--	--	(4)	9
Dominican Republic	1	47	--	--	(4)	4	--	--	--	--
France	2	55	--	--	43	414	1	13	--	--
Germany	582	26,600	527	9,260	960	19,200	1	16	--	--
Hong Kong	11	333	--	--	124	1,550	18	740	--	--
India	19	993	--	--	47	144	--	--	--	--
Ireland	13	590	--	--	16	196	2	22	--	--
Israel	1	26	--	--	114	439	--	--	--	--
Italy	7	322	29	1,010	58	938	--	--	10	454
Japan	185	8,270	161	5,210	296	1,770	6	151	--	--
Korea, Republic of	183	9,740	--	--	33	160	100	714	--	--
Malaysia	1	44	--	--	1	5	--	--	--	--
Mexico	65	2,280	--	--	2	44	--	--	--	--
Netherlands	(4)	15	--	--	3	32	--	--	--	--
New Zealand	(4)	15	--	--	6	92	--	--	--	--
Norway	31	1,690	--	--	67	1,490	--	--	3	152
Philippines	(4)	18	--	--	1	3	--	--	--	--
Singapore	(4)	17	--	--	38	193	20	470	--	--
South Africa	--	--	80	2,400	--	--	--	--	--	--
Spain	8	85	--	--	41	72	--	--	--	--
Sweden	3	58	--	--	2	21	--	--	--	--
Switzerland	35	1,950	514	12,700	38	310	--	--	--	--
Taiwan	4	169	--	--	95	1,040	16	78	--	--
Thailand	2	120	--	--	18	400	--	--	-4	7
United Arab Emirates	6	255	--	--	6	22	--	--	--	--
United Kingdom	46	1,880	1,270	36,700	1,670	28,100	8	56	--	--
Other	4	100	--	--	26	179	--	6	--	--
Total	1,330	60,800	2,640	69,500	4,530	65,900	173	2,290	21	1,130
January–March	2,670	124,000	14,800	212,000	9,630	133,000	281	3,360	207	10,300

-- Zero.

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

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Gross weight.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.