

# Mineral Industry Surveys

## For information, contact:

Patricia J. Loferski, PGM Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-7708, Fax: (703) 648-7757  
E-mail: ploferski@usgs.gov

Oya Koyukan-Potter (Data)  
Telephone: (703) 648-7987  
Fax: (703) 648-7975  
E-mail: opotter@usgs.gov

**Internet:** <http://minerals.usgs.gov/mineral>

## PLATINUM-GROUP METALS IN JANUARY 2009

According to Platts Metals Week, the average January 2009 prices of platinum and palladium rose by 13% and 7%, respectively, compared with the average prices in December 2008. The average prices of rhodium and iridium fell by 6% and 2%, respectively, and the average price of ruthenium plummeted by 42% during the same time period. January marked the second consecutive rise in the average monthly price of platinum and the seventh consecutive drop in the average monthly price of rhodium. Prices of platinum, palladium and rhodium were volatile throughout the month in response to changes in oil and gold prices. The platinum price touched the \$1,000-per-troy-ounce mark for the first time since mid-October 2008. Ruthenium prices continued their nearly continuous downward trend that started in October 2008, as a result of diminished buying interest.

North American Palladium Ltd. (Toronto, Ontario, Canada) increased its indicated resource estimate of the Offset High Grade Zone by 280% to 12.3 million tons (Mt) from 3.2 Mt of ore. North American Palladium planned an aggressive drilling program in 2009 to further define the ore zone, which is an extension of the Roby Zone that has been mined underground at the Lac des Iles Mine, Thunder Bay, Ontario, since 2006. A detailed prefeasibility report was underway and expected to be completed in June 2009 (North American Palladium Ltd., 2009). Platinum Australia Ltd. (West Perth, Australia) produced the first flotation concentrate from its Smokey Hills Mine in South Africa, and the first shipment of concentrate to the Impala Platinum smelter was expected the following week (Swanepoel, 2009). Aquarius Platinum Ltd.'s attributable production for the second half of 2008 was 8,090 kilograms (kg) of platinum-group metals (PGMs), a 17% increase relative to the first half of 2008 (Aquarius Platinum Ltd., 2009, p. 1). Impala Platinum Holdings Ltd. deferred long lead projects and cut operating expenditures in response to lower PGM prices. Impala production for the second half of 2008 was 27,300 kg of platinum, a 14.8% drop relative to the first half of 2008 (Impala Platinum Holdings Ltd., 2009, p. 12).

Proposed mining reforms in Zimbabwe would leave the Government-owned Zimbabwe Mining Development Corp. as the sole explorer and discoverer of minerals in that country and

would place strict monitoring on the production and refining of precious and other metals. The proposal would include a total ban on the export of unprocessed PGMs. The proposals were part of a plan to improve the Zimbabwe economy (Nkala, 2009).

Power demand in South Africa fell, partly as a result of the shutdown of smelters in response to depressed metal prices. The state-owned power facility, Eskom Holdings Ltd., nevertheless proceeded with plans to increase generating capacity, believing that the drop in demand would be temporary. A power shortage in January 2008 had resulted in the shutdown of all platinum mines for 1 week, resulting in power rationing, production disruptions, and price increases (Lourens, 2009).

Automobile manufacturer Mazda Motor Corp. planned to reduce the amount of platinum in its catalytic converters to 0.2 gram (g) from 0.6 g as a result of new nanotechnology (Johnson Matthey Plc, 2009a).

Platinum jewelry demand in India surged following the drop in metal price. Platinum items accounted for 25% to 40% of total jewelry sales, up from 10% to 15% in previous months (Johnson Matthey Plc, 2009b).

## References Cited

- Aquarius Platinum Ltd., 2009, Half year financial results (December 2008): Bedford, South Africa, Aquarius Platinum Ltd., 21 p.
- Impala Platinum Holdings Ltd., 2009, Consolidated interim results for the six months ended 31 December 2008: Johannesburg, South Africa, Impala Platinum Holdings Ltd., 16 p.
- Johnson Matthey Plc, 2009a, Mazda launches single nano technology autocatalyst: London, United Kingdom, Johnson Matthey Plc news release, January 13, 1 p.
- Johnson Matthey Plc, 2009b, Platinum jewellery demand surging in India: London, United Kingdom, Johnson Matthey Plc news release, January 22, 1 p.
- Lourens, Carli, 2009, Eskom says power demand slumps; Maintenance boosted: Bloomberg, news release, January 6, 1 p.
- Nkala, Oscar, 2009, Zimbabwe proposes sweeping mining industry reforms: Creamer Media's Mining Weekly, January 30, 2 p. (Accessed February 2, 2009, at <http://www.miningweekly.com/article/zimbabwe-proposes-sweeping-mining-industry-reforms-2009-01-30>.)
- North American Palladium Ltd., 2009, North American palladium increases indicated resource by 280% at Offset Zone, plans aggressive 2009 drill program: Toronto, Ontario, Canada, North American Palladium Ltd. press release, January 20, 2 p.

Swanepoel, Esmarie, 2009, Platinum Australia produces first concentrate from Smokey Hills: Creamer Media's Mining Weekly, January 27, 1 p. (Accessed

February 17, 2009, at <http://www.miningweekly.com/article/platinum-australia-produces-first-concentrate-from-smokey-hills-2009-01-27>.)

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

(Dollars per troy ounce)

	Platinum	Palladium	Rhodium	Iridium	Ruthenium
<b>2008:</b>					
Low/date	760.00 Oct. 27	167.00 Dec. 5	1,000.00 Nov. <sup>2</sup>	400.00 Dec. 2	120.00 Dec. <sup>2</sup>
High/date	2,275.00 Mar. 4	585.00 Mar. 4	10,100.00 June 18	460.00 Aug. <sup>2</sup>	440.00 Feb. and Mar. <sup>2</sup>
Average	1,578.26	355.12	6,533.57	448.34	324.60
<b>2009, January:</b>					
Low/date	920.00/15	182.00/14 and 15	1,050.00/14 and 15	420.00 <sup>2</sup>	85.00 <sup>2</sup>
High/date	1,000.00/7	205.00/7	1,300.00/7	430.00 <sup>2</sup>	100.00/2
Average	951.24	190.05	1,149.29	424.76	89.05

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

<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 (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2007	621	\$20,100	65,900	\$2,620,000	3,940	\$145,000	10,200	\$330,000	206,000	\$504,000	58	\$964
2008:												
October	(2)	16	4,140	147,000	422	14,500	443	11,700	1,970	18,900	5	177
November	18	845 <sup>r</sup>	2,370	46,300	176	4,700	431	9,600	7,700	39,600	--	--
December:												
Austria	--	--	--	--	--	--	--	--	5	154	--	--
Belgium	--	--	33	884	--	--	--	--	--	--	--	--
Bolivia	--	--	--	--	--	--	--	--	2,140 <sup>3</sup>	91	--	--
Brazil	--	--	--	--	--	--	--	--	31	460	--	--
Canada	1	19	--	--	--	--	11	305	741 <sup>3</sup>	1,860	1	50
China	--	--	--	--	(2)	4	1	51	5	145	--	--
Colombia	--	--	--	--	111	2,400	--	--	5 <sup>3</sup>	32	--	--
Czech Republic	--	--	--	--	--	--	2 <sup>3</sup>	21	6 <sup>3</sup>	75	--	--
Germany	--	--	--	--	49	1,180	220	3,760	19	571	(2)	9
India	1	42	--	--	--	--	--	--	--	--	--	--
Ireland	--	--	--	--	--	--	(2)	8	--	--	--	--
Israel	--	--	--	--	(2)	3	--	--	--	--	--	--
Italy	--	--	3	95	--	--	35	981	--	--	--	--
Japan	--	--	--	--	2 <sup>3</sup>	10	--	--	1,630 <sup>3</sup>	573	--	--
Korea, Republic of	--	--	--	--	--	--	--	--	43	757	--	--
Mexico	--	--	--	--	6	150	13 <sup>3</sup>	134	1	78	--	--
Norway	--	--	31	814	--	--	--	--	--	--	--	--
Panama	--	--	--	--	--	--	--	--	2 <sup>3</sup>	63	--	--
Philippines	--	--	--	--	--	--	--	--	6	88	--	--
Russia	--	--	51	1,390	559	14,600	--	--	--	--	--	--
Singapore	--	--	--	--	--	--	(2)	5	19	520	--	--
South Africa	--	--	927	24,800	--	--	2	44	--	--	--	--
Sweden	--	--	--	--	--	--	(2)	8	--	--	--	--
Switzerland	--	--	--	--	--	--	164	3,480	--	--	--	--
Taiwan	--	--	--	--	--	--	--	--	13	358	--	--
Thailand	--	--	--	--	(2)	5	--	--	--	--	--	--
United Kingdom	--	--	804	22,200	1	22	7	339	--	--	--	--
Venezuela	--	--	--	--	--	--	--	--	99 <sup>3</sup>	88	--	--
Total	2	60	1,850	50,200	728	18,900	455	9,140	4,760	5,910	1	59
Year to date	212	7,210	45,700	2,330,000	4,040	177,000	7,180	282,000	92,200	593,000	734	22,400

<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>Less than ½ unit.

<sup>3</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS, BY COUNTRY<sup>†</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)
2007	101,000	\$1,120,000	11,600	\$129,000	3,410	\$41,900	23	\$192	48,700	\$655,000	16,600	\$2,650,000
2008:												
October	4,290	32,800	756	7,290	149	2,180	--	--	2,390	19,300	721	84,500
November	31,700	253,000	729	5,300	292	4,020	--	--	5,800	35,800	1,030	65,000
December:												
Belgium	--	--	--	--	--	--	--	--	--	--	89	4,290
Canada	93	948	--	--	--	--	--	--	--	--	--	--
Germany	(3)	7	8	64	(3)	14	--	--	166	852	113	3,940
Ireland	--	--	--	--	2	22	--	--	--	--	--	--
Italy	94	560	--	--	--	--	--	--	--	--	1	33
Japan	230 <sup>4</sup>	635	2	36	--	--	--	--	272	713	--	--
New Zealand	--	--	1	23	--	--	--	--	--	--	--	--
Norway	187	1,240	--	--	--	--	--	--	--	--	--	--
Russia	1,140	7,410	530	2,980	--	--	--	--	4,170	26,100	174	7,000
South Africa	1,480	9,660	16	100	34	448	--	--	316	1,990	359	15,800
Sweden	--	--	4	69	--	--	--	--	--	--	--	--
Switzerland	--	--	463	2,820	--	--	--	--	--	--	--	--
United Kingdom	1,440	8,230	7	109	5	74	--	--	564	2,420	17	695
Total	4,660	28,700	1,030	6,200	40	558	--	--	5,490	32,100	754	31,800
Year to date	114,000	1,270,000	6,810	85,500	2,550	36,600	11	101	49,800	426,000	12,600	2,470,000

-- 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.

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

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 <sup>2</sup>		Platinum waste and scrap		Palladium <sup>2</sup>		Iridium, osmium, and ruthenium <sup>2,3</sup>		Rhodium <sup>2</sup>	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)
2007	28,900	\$763,000	54,400	\$924,000	41,800	\$298,000	8,190	\$145,000	2,210	\$401,000
2008:										
October	1,040	26,100	4,390	72,600	1,960	10,900	265	2,700	27	4,620
November	2,390	60,400	3,980	59,500	1,510	8,780 <sup>r</sup>	608	4,910 <sup>r</sup>	46	3,060
December:										
Australia	2 <sup>4</sup>	103	--	--	35	399	--	--	--	--
Austria	4	108	--	--	--	--	20	467	--	--
Belgium	1	23	--	--	(5)	7	--	--	--	--
Canada	31	908	55 <sup>4</sup>	1,630	100	1,080	3	50	(5)	57
Chile	--	--	--	--	(5)	5	--	--	--	--
China	5	78	--	--	16	143	--	--	22	876
Colombia	--	--	--	--	6	56	--	--	--	--
Costa Rica	--	--	--	--	--	--	3	17	--	--
Czech Republic	--	--	--	--	45	37	--	--	--	--
Denmark	(5) <sup>4</sup>	19	--	--	4	61	--	--	--	--
France	7	153	--	--	17	96	7	43	--	--
Germany	187 <sup>4</sup>	4,470	2,280 <sup>4</sup>	9,910	179	1,450	(5)	9	--	--
Hong Kong	680	17,600	--	--	81	619	--	--	--	--
India	4	90	--	--	3	23	1	5	--	--
Ireland	6	145	--	--	4 <sup>4</sup>	13	2	9	--	--
Israel	--	--	--	--	7	46	--	--	--	--
Italy	1	72	--	--	105	1,020	--	--	21	1,160
Japan	44	1,120	25	639	174	895	179	1,180	--	--
Korea, Republic of	4	71	--	--	11	124	--	--	--	--
Mexico	6	205	--	--	4	43	38 <sup>4</sup>	1,100	(5) <sup>4</sup>	10
Norway	(5) <sup>4</sup>	5	--	--	1	12	--	--	--	--
Singapore	(5) <sup>4</sup>	4	--	--	4	42	74	476	--	--
Spain	1 <sup>4</sup>	7	--	--	9	60	--	--	--	--
Sweden	1	32	--	--	--	--	--	--	--	--
Switzerland	963	24,400	--	--	5	99	(5) <sup>4</sup>	3	--	--
Taiwan	5	96	--	--	14 <sup>4</sup>	57	1	11	--	--
United Kingdom	23	516	1,530 <sup>4</sup>	24,800	82	588	3	36	--	--
Other	6 <sup>4</sup>	198	1	23	56 <sup>4</sup>	385	(5) <sup>4</sup>	9	(5)	21
Total	1,980	50,400	3,890	37,000	962	7,360	330	3,410	44	2,130
Year to date	15,600	570,000	54,700	1,190,000	26,400	197,000	6,450	80,600	1,980	302,000

<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>Unwrought and other forms.

<sup>3</sup>Gross weight.

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

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

Source: U.S. Census Bureau.