

# Mineral Industry Surveys

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## PLATINUM-GROUP METALS IN DECEMBER 2009

According to Platts Metals Week (2009a-e), the average December prices of platinum, palladium, and rhodium increased by 3%, 7%, and 4%, respectively, compared with the average prices in November. The average price of ruthenium increased by 48% during the same time period and the price of iridium remained unchanged. Platinum, palladium, and ruthenium reached year-to-date high prices in December.

North American Palladium Ltd. (NAP) (Toronto, Ontario, Canada) began the process of restarting operations at its Lac des Iles Mine in northwestern Ontario and expected to produce its first concentrate in the second quarter of 2010. The mine had been placed on care-and-maintenance status in October 2008 owing to the drop in metal prices and was being restarted owing to the steady rise in palladium price. NAP expected to produce 4,350 kilograms (kg) of palladium over a 2-year period and planned production from the Roby Underground Zone only. No production was planned from the open pit, which was near the end of its life when placed on care-and-maintenance status. Production from the Offset Zone was scheduled to begin in 2012. The Offset Zone, with an annual production of 7,780 kg of palladium, had the potential to increase the mine life at Lac des Iles by 10 years (North America Palladium Ltd., 2009).

FNX Mining Co. Inc. (Toronto) expected production of 2,300 kg of combined platinum, palladium, and gold during 2010 from its ore deposits at the McCreedy West and Podolsky Mines in the Sudbury Complex of Ontario. FNX planned to continue production from the copper and precious-metals-rich ores. Production from nickel-rich ores had been suspended owing to the ongoing shutdown of its primary processor. Commercial production from the high-grade Levack Footwall Deposit (LFD) at Sudbury was planned to begin by mid-2010. FNX expected to produce 200,000 metric tons (t) of ore from the LFD during 2010, including 54,000 t of preproduction ore. The preproduction ore was expected to be processed in the first half of 2010 and to produce 61 kg of combined platinum, palladium, and gold (FNX Mining Co. Inc., 2009).

Sylvania Resources Ltd. (Subiaco, Western Australia, Australia) completed the construction and commissioning of its Mooinooi tailings treatment plant near Millsell in the western Bushveld Complex of South Africa. The plant was expected to reach full capacity of 37,000 metric tons per month of tailings by the end of February 2010. The plant was the fourth tailings treatment plant operated by Sylvania for the recovery of platinum-group metals from high-chromium tailings (Sylvania Resources, Ltd., 2009).

The U.S. Mint began a 6-year program that highlights the preamble of the Constitution on the reverse of collectable American Platinum Eagle proof coins. Sales of the first in the series, whose theme was "To Form a More Perfect Union," were begun on December 3. A maximum of 8,000 1-ounce coins was scheduled to be produced (Unser, 2009).

## 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>2008:</b>					
Low/date	760.00 Oct. 27	167.00 Dec. 5	1,000.00 Nov. <sup>2</sup>	400.00 Dec. <sup>2</sup>	120.00 Dec. <sup>2</sup>
High/date	2,275.00 Mar. 4	585.00 Mar. 4	10,100.00 Jun. 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:</b>					
<b>November:</b>					
Low/date	1,329.00/3	322.00/3	1,950.00/2 and 3	420.00 <sup>2</sup>	95.00 <sup>2</sup>
High/date	1,473.00/25	377.00/25	2,790.00/25	420.00 <sup>2</sup>	150.00 <sup>2</sup>
Average	1,401.26	353.79	2,328.68	420.00	106.32
<b>December:</b>					
Low/date	1,403.00/23	359.00/23	2,200.00 <sup>2</sup>	420.00 <sup>2</sup>	150.00 <sup>2</sup>
High/date	1,510.00/2	407.00/31	2,750.00/1	420.00 <sup>2</sup>	160.00 <sup>2</sup>
Average	1,449.14	377.33	2,425.00	420.00	157.62
<b>Year-to-date:</b>					
Low/date	920.00 Jan. 15	182.00 Jan. <sup>2</sup>	1,050.00 Jan. <sup>2</sup>	420.00 Jan.–Dec. <sup>2</sup>	75.00 Feb. <sup>2</sup>
High/date	1,510.00 Dec. 2	407.00 Dec. 31	2,790.00 Nov. 25	430.00 Jan. <sup>2</sup>	160.00 Dec. <sup>2</sup>
Average	1,207.55	265.65	1,591.32	420.40	97.28

<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	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)
2008	212	\$7,210	45,700	\$2,330,000	4,040	\$177,000	7,180	\$282,000	92,200	\$593,000	734	\$22,400
2009:												
September	1	27	3,220	132,000	264	8,610	325	6,470	24,600	39,200	2	80
October	1	30	6,150	250,000	373	13,600	700	26,600	5,370	34,700	2	71
November:												
Argentina	--	--	--	--	--	--	--	--	25	775	--	--
Belgium	--	--	23	1,010	--	--	--	--	--	--	--	--
Brazil	--	--	--	--	--	--	5	221	31	671	--	--
Canada	1	23	--	--	--	--	26	1,210	1,540	2,920	10	361
China	--	--	--	--	--	--	1	69	21	362	--	--
Colombia	--	--	--	--	122	4,320	--	--	11	62	--	--
France	--	--	--	--	--	--	--	--	26	939	--	--
Germany	--	--	31	1,330	57	2,040	228	6,770	282	11,300	--	--
Israel	--	--	--	--	5	138	--	--	--	--	--	--
Italy	--	--	171	7,770	1	25	13	557	2	514	--	--
Japan	--	--	--	--	9	207	--	--	5,020	3,760	--	--
Korea, Republic of	--	--	--	--	--	--	--	--	49	1,620	--	--
Mexico	--	--	--	--	6	199	--	--	(2)	4	--	--
Norway	--	--	272	11,800	--	--	--	--	--	--	--	--
Philippines	--	--	--	--	--	--	--	--	5	112	--	--
Poland	--	--	--	--	--	--	--	--	17,400	766	--	--
Russia	--	--	1,050	39,300	5	215	--	--	--	--	--	--
South Africa	1	51	1,620	69,100	--	--	7	291	--	--	--	--
Switzerland	--	--	--	--	--	--	78	3,350	--	--	--	--
United Kingdom	--	--	76	3,300	1	29	7	257	7	1,210	1	71
Venezuela	--	--	--	--	--	--	--	--	1,520	51	--	--
Other	--	--	--	--	--	--	(2)	3	11	126	(2)	2
Total	2	74	3,240	134,000	206	7,170	364	12,700	26,000	25,200	11	434
Year to date	14	383	35,000	1,320,000	3,410	114,000	5,490	159,000	125,000	307,000	511	20,500

-- 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)
2008	114,000	\$1,270,000	6,810	\$85,500	2,550	\$36,600	11	\$101	49,800	\$426,000	12,600	\$2,470,000
2009:												
September	8,000	74,700	187	1,860	106	1,370	--	--	1,630	4,360	853	43,300
October	8,750	88,800	334	3,540	99	1,210	--	--	1,690	4,910	1,200	62,000
November:												
Belgium	12	122	--	--	--	--	--	--	--	--	4	265
Canada	281	4,660	5	57	--	--	--	--	--	--	--	--
Germany	39	363	6	74	13	226	--	--	124	337	47	2,940
Italy	177	2,010	--	--	--	--	--	--	--	--	12	1,060
Japan	161	1,200	12	80	--	--	--	--	20	53	--	--
Norway	749	7,990	--	--	--	--	--	--	--	--	6	383
Russia	8,970	101,000	--	--	--	--	--	--	--	--	90	5,640
South Africa	2,560	27,800	129	1,200	26	327	--	--	1,340	3,670	396	22,400
Switzerland	1	3	105	1,360	--	--	--	--	--	--	--	--
United Kingdom	849	8,970	9	169	7	90	--	--	355	1,400	82	5,200
Other	3	28	7	94	--	--	--	--	--	--	--	--
Total	13,800	154,000	275	3,030	45	642	--	--	1,840	5,460	637	37,900
Year to date	56,800	506,000	6,860	55,100	1,180	16,100	68	551	19,700	50,400	9,500	412,000

-- 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.

Source: U.S. Census Bureau.

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

(Kilograms of 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 (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2008	15,600	\$570,000	54,700	\$1,190,000	26,400	\$197,000	6,450	\$80,600	1,980	\$302,000
2009:										
September	2,080	83,500	1,950	35,300	2,490	19,800	84	1,040	253	6,800
October	908	34,100	4,040	76,000	2,940	22,100	833	3,520	89	4,150
November:										
Australia	2	137	--	--	61	709	--	--	(4)	4
Austria	4	129	--	--	--	--	--	--	--	--
Belgium	7	265	--	--	53	143	--	--	--	--
Canada	50	2,140	--	--	207	2,010	--	--	(4)	70
China	5	223	--	--	24	313	54	285	--	--
France	1	60	--	--	32	229	--	--	--	--
Germany	133	4,930	80	585	171	2,040	543	2,660	--	--
Hong Kong	4	415	--	--	98	1,280	61	622	24	473
India	7	309	--	--	9	58	--	--	(4)	8
Ireland	9	312	--	--	--	--	1	6	--	--
Israel	5	53	--	--	205	701	--	--	--	--
Italy	320	14,600	--	--	1,410 <sup>5</sup>	15,700	--	--	6	258
Japan	92	2,430	56	1,810	154	1,600	1	6	1	117
Korea, Republic of	5	145	--	--	99	656	--	--	--	--
Malaysia	(4)	7	--	--	1	13	--	--	--	--
Mexico	17	607	--	--	55	102	(4)	5	(4)	14
Morocco	1	21	--	--	6	39	--	--	--	--
Netherlands	(4)	43	--	--	6	36	--	--	--	--
New Zealand	(4)	9	--	--	7	128	--	--	--	--
Norway	10	226	--	--	1	27	--	--	--	--
Singapore	(4)	3	--	--	24	59	--	--	--	--
South Africa	--	--	651	2,330	--	--	--	--	7	810
Spain	--	--	--	--	9	112	--	--	--	--
Sweden	2	68	--	--	(4)	6	--	--	--	--
Switzerland	28	1,050	38	1,110	6	91	--	--	11	1,080
Taiwan	3	112	3	10	269	1,210	1	17	--	--
Thailand	(4)	202	--	--	14	241	--	--	--	--
United Kingdom	30	1,180	1,080	30,500	192	1,710	4	31	--	--
Other	1	45	--	--	44	182	--	--	--	--
Total	740	29,800	1,900	36,300	3,150	29,400	665	3,630	50	2,830
Year to date	15,100	506,000	29,000	470,000	28,000	209,000	3,190	28,100	1,100	45,100

-- 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.

<sup>5</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.