

# Mineral Industry Surveys

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## PLATINUM-GROUP METALS IN DECEMBER 2007

According to Platts Metals Week, the December average price of platinum increased 3% as compared with that of November, and the palladium average price decreased 3% over the same time period. Platinum price reached an all-time high of \$1,547 per troy ounce in December and concluded a record year, with a price gain of more than \$400 over the 12-month period. Platinum prices were affected by concerns over South African production levels, which had been revised downward owing to labor problems and other disruptions. In addition, investors continued to hold physical metal in the form of exchange-traded funds (ETFs) (Abrams, 2007). ETFs, which exist in a number of other commodities such as gold and silver, were launched for platinum in May 2007. These funds are essentially paper investments that are backed by platinum bullion and allow investment without investors having to take physical delivery of the metal. The platinum price increases in November and December 2007 created significant investor interest; purchases of platinum through ETFs rose from roughly 2,177 kilograms (kg) at the end of September to nearly 6,220 kg at the end of December. Approximately 8,708 kg of palladium had been purchased through ETFs by the end of 2007 (Johnson Matthey, 2008).

The December average price of rhodium increased 2% as compared with that of November, and the iridium price had not changed since February 13, 2007, remaining at \$450 per troy ounce. The average price of ruthenium decreased for the second consecutive month, falling 17% as compared with that of November owing to a lack of buying interest (Johnson Matthey, 2007b). The ruthenium price had reached an all-time high of \$870 per troy ounce in February 2007 and finished December at \$415 per troy ounce, a drop of 52%. The high price followed a surge in demand from computer hard disk manufacturers (Johnson Matthey, 2007a, p. 39; Metal Bulletin Monthly, 2007).

Production from the Stillwater Mining Company's (Billings, MT) two mines for the fourth quarter reportedly was 3,142 kg

of palladium and 964 kg of platinum, down 18% and 13% respectively, as compared with production in the fourth quarter 2006. Fourth quarter production included 2,177 kg of palladium and 684 kg of platinum from the Stillwater Mine, and 964 kg of palladium and 280 kg of platinum from the smaller East Boulder Mine. The total production for 2007 reportedly was 12,846 kg of palladium and 3,857 kg of platinum, down 11% and 10% respectively, as compared with that of 2006. The 2007 production included 8,522 kg of palladium and 2,644 kg of platinum from the Stillwater Mine, and 4,323 kg of palladium and 1,213 kg of platinum from the East Boulder Mine. The lower production was mainly attributed to labor issues, including high attrition among mine workers, a 7-day work stoppage at the Stillwater Mine, and a higher proportion of less-experienced miners in the workforce. Stillwater production from recycled material in the fourth quarter yielded 2,933 kg of palladium, platinum, and rhodium, a decrease of 13% as compared with production in 2006. Recycling production for the year increased to 11,598 kg of palladium, platinum, and rhodium, up 8% as compared with that of 2006 (Stillwater Mining Company, 2008).

### References Cited

- Abrams, Ovid, 2007, Platinum above \$1,500/oz caps record-breaking year: Platts Metals Week, v. 78, no. 52, December 24, p. 1, 13-14.
- Johnson Matthey, 2007a, Platinum 2007: London, United Kingdom, Johnson Matthey, 52 p.
- Johnson Matthey, 2007b, The platinum metals report, December 2007: London, United Kingdom, 4 p. (Accessed February 25, 2008, via <http://www.platinum.matthey.com>.)
- Johnson Matthey, 2008, The progress of platinum group metals exchange traded funds (ETFs): London, United Kingdom, 1 p. (Accessed February 28, 2008, via <http://www.platinum.matthey.com>.)
- Metal Bulletin Monthly, 2007, Ruthenium: Metal Bulletin Monthly, no. 441, October, p. 44-45.
- Stillwater Mining Company, 2008, Stillwater Mining Company reports modest fourth quarter profit, loss for full year; post-2007 PGM price surge: Billings, MT, Stillwater Mining Company news release, February 25, 15 p.

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

(Dollars per troy ounce)

	Platinum	Palladium	Rhodium	Iridium	Ruthenium
<b>2006:</b>					
Low/date	985.00 Jan. 3	263.00 Jan. 5	3,000.00 Jan. <sup>2</sup>	195.00 Jan. <sup>2</sup>	87.00 Jan. <sup>2</sup>
High/date	1,360.00 Nov. 21	407.00 May 12	6,000.00 Dec. 19 and 20	400.00 May—Dec. <sup>2</sup>	400.00 Dec. 29
Average	1,144.42	322.93	4,561.06	349.45	193.09
<b>2007:</b>					
<b>October:</b>					
Low/date	1,356.00/3	352.00/3	6,175.00/1	450.00 <sup>2</sup>	520.00/1
High/date	1,461.00/29	382.00/15	6,325.00 <sup>2</sup>	450.00 <sup>2</sup>	580.00 <sup>2</sup>
Average	1,413.87	368.70	6,259.78	450.00	563.48
<b>November:</b>					
Low/date	1,392.00/12	347.00/29	6,350.00/1	450.00 <sup>2</sup>	475.00 <sup>2</sup>
High/date	1,478.00/26	380.00/6	6,800.00/21 and 26	450.00 <sup>2</sup>	565.00/1
Average	1,449.45	366.75	6,651.25	450.00	527.00
<b>December:</b>					
Low/date	1,453.00/3	346.00/7	6,800.00 <sup>2</sup>	450.00 <sup>2</sup>	415.00 <sup>2</sup>
High/date	1,547.00/27	370.00/31	6,850.00 <sup>2</sup>	450.00 <sup>2</sup>	475.00/3 and 4
Average	1,492.11	355.26	6,813.16	450.00	437.11
<b>Year-to-date:</b>					
Low/date	1,122.00 Jan. 8	322.00 Aug. 22	5,550.00 Jan. <sup>2</sup>	400.00 Jan. <sup>2</sup> and Feb. <sup>2</sup>	375.00 Jul. <sup>2</sup>
High/date	1,547.00 Dec. 27	385.00 Apr. 20	6,850.00 Dec. <sup>2</sup>	450.00 Feb.—Dec. <sup>2</sup>	870.00 Feb. <sup>2</sup>
Average	1,308.40	357.34	6,203.09	444.43	573.74

<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)
2006	234	\$7,320	58,100	\$2,070,000	7,570	\$279,000	8,540	\$233,000	94,100	\$291,000	65	\$881
2007:												
September	3	114	5,670	232,000	43	1,520	736	23,700	25,200	46,000	1	29
October	26	1,530	4,620	193,000	248	8,360	689	23,500	16,000	46,800	3	235
November:												
Australia	--	--	--	--	--	--	289	13,800	--	--	--	--
Belgium	--	--	52	2,430	--	--	--	--	--	--	--	--
Bolivia	--	--	--	--	--	--	--	--	1,030 <sup>2</sup>	132	--	--
Brazil	--	--	--	--	--	--	1 <sup>2</sup>	12	1,550 <sup>2</sup>	1,760	--	--
Canada	(3)	15	--	--	--	--	76	2,590	40	1,690	11 <sup>2</sup>	155
Chile	--	--	--	--	--	--	--	--	4,910 <sup>2</sup>	557	--	--
Colombia	--	--	--	--	78	2,750	--	--	10	424	--	--
Czech Republic	--	--	--	--	--	--	--	--	175 <sup>2</sup>	175	--	--
Germany	(3) <sup>2</sup>	7	--	--	13 <sup>2</sup>	499	393 <sup>2</sup>	12,100	5,570	20,700	--	--
Greece	--	--	--	--	--	--	--	--	7	270	--	--
Hong Kong	--	--	--	--	--	--	--	--	14	777	--	--
Israel	--	--	--	--	--	--	--	--	2	110	--	--
Italy	--	--	176	7,910	11	500	15	733	--	--	--	--
Japan	--	--	8	343	1 <sup>2</sup>	11	(3) <sup>2</sup>	13	293	17,200	--	--
Jordan	--	--	--	--	--	--	--	--	116 <sup>2</sup>	55	--	--
Korea, Republic of	--	--	--	--	--	--	1	41	5,850 <sup>2</sup>	800	--	--
Mexico	--	--	--	--	5	155	--	--	(3)	11	--	--
Norway	--	--	31	1,350	--	--	--	--	--	--	--	--
Philippines	--	--	--	--	--	--	--	--	11 <sup>2</sup>	228	--	--
Russia	--	--	78	3,660	--	--	--	--	--	--	--	--
South Africa	--	--	2,640	116,000	--	--	87	3,700	--	--	--	--
Switzerland	--	--	--	--	1 <sup>2</sup>	15	5 <sup>2</sup>	116	--	--	--	--
United Kingdom	--	--	1,260	58,700	15	1,010	9 <sup>2</sup>	260	--	--	--	--
Venezuela	--	--	--	--	--	--	--	--	980 <sup>2</sup>	51	--	--
Other	--	--	--	--	--	--	(3) <sup>2</sup>	6	2 <sup>2</sup>	13	--	--
Total	(3)	22	4,250	191,000	124	4,940	877	33,400	20,500	44,900	11	155
Year to date	552	18,200	61,300	2,450,000	3,840	141,000	9,350	300,000	190,000	440,000	58	964

-- Zero.

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

<sup>2</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>3</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>		Unwrought osmium		Unwrought ruthenium		Rhodium <sup>2</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2006	100,000	\$967,000	19,000	\$141,000	2,800	\$30,100	56	\$487	36,000	\$187,000	15,900	\$1,920,000
2007:												
September	9,080	95,100	209	2,200	199	2,740	--	--	5,960	71,700	1,280	227,000
October	9,000	104,000	1,630	17,500	383	3,230	--	--	3,870	54,200	1,270	216,000
November:												
Belgium	622	7,480	14	175	--	--	--	--	155	2,580	67	11,800
Canada	95	1,660	173 <sup>3</sup>	1,480	--	--	--	--	--	--	--	--
Germany	38 <sup>3</sup>	169	228 <sup>3</sup>	2,680	12	170	--	--	2,120	24,800	153 <sup>3</sup>	32,800
Italy	79	955	3 <sup>3</sup>	25	--	--	--	--	--	--	9 <sup>3</sup>	1,190
Japan	100 <sup>3</sup>	1,030	18 <sup>3</sup>	71	--	--	--	--	15	150	--	--
Norway	218	2,490	--	--	--	--	--	--	--	--	5	981
Russia	4,640	54,500	585 <sup>3</sup>	4,600	--	--	--	--	--	--	65	13,000
Singapore	--	--	--	--	--	--	--	--	270	3,560	--	--
South Africa	1,570	18,200	272	3,140	90	1,270	--	--	1,640	24,900	553	103,000
Switzerland	--	--	281	3,550	--	--	--	--	--	--	--	--
Syria	--	--	(4) <sup>3</sup>	7	--	--	--	--	--	--	--	--
Taiwan	--	--	--	--	--	--	--	--	202	3,770	--	--
Thailand	--	--	1	10	--	--	--	--	--	--	--	--
United Kingdom	1,210	14,200	5 <sup>3</sup>	75	70	1,400	(4)	3	739	13,100	65 <sup>3</sup>	13,100
Total	8,580	101,000	1,580	15,800	172	2,840	(4)	3	5,140	72,900	917	176,000
Year to date <sup>5</sup>	93,300	1,040,000	10,200	112,000	3,220	39,100	23	192	43,900	596,000	15,300	2,410,000

-- 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>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>4</sup>Less than ½ unit.

<sup>5</sup>May include revisions to previous months' data.

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	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)
2006	45,500	\$1,170,000	29,400	\$594,000	53,100	\$402,000	3,390	\$35,800	1,600	\$108,000
2007:										
September	2,100	56,700	4,880	53,300	3,170	19,900	1,270	18,200	218	42,900
October	2,360	62,200	2,040	79,700	2,870	21,500	713	13,800	111	21,800
November:										
Australia	1 <sup>4</sup>	119	--	--	28 <sup>4</sup>	413	--	--	--	--
Austria	13	313	--	--	--	--	--	--	--	--
Belgium	26 <sup>4</sup>	1,050	1,640 <sup>4</sup>	10,100	3 <sup>4</sup>	30	(5)	3	(5)	7
Canada	127 <sup>4</sup>	4,690	122	1,160	424 <sup>4</sup>	3,940	5	54	(5)	14
China	123 <sup>4</sup>	5,620	--	--	109 <sup>4</sup>	961	13	260	26 <sup>4</sup>	3,110
Denmark	(5) <sup>4</sup>	7	--	--	6 <sup>4</sup>	121	--	--	--	--
France	4 <sup>4</sup>	79	--	--	35 <sup>4</sup>	236	--	--	--	--
Germany	438 <sup>4</sup>	11,000	504 <sup>4</sup>	8,220	327 <sup>4</sup>	2,140	--	--	--	--
Hong Kong	3 <sup>4</sup>	478	--	--	102 <sup>4</sup>	918	161 <sup>4</sup>	3,130	--	--
India	49 <sup>4</sup>	971	--	--	(5) <sup>4</sup>	4	(5) <sup>4</sup>	8	--	--
Ireland	23 <sup>4</sup>	452	--	--	10 <sup>4</sup>	18	--	--	--	--
Israel	--	--	--	--	351 <sup>4</sup>	1,070	--	--	--	--
Italy	136 <sup>4</sup>	6,420	--	--	155 <sup>4</sup>	1,030	--	--	31 <sup>4</sup>	668
Japan	736 <sup>4</sup>	24,500	294	10,200	337 <sup>4</sup>	3,420	62	896	198	32,100
Korea, Republic of	21 <sup>4</sup>	432	--	--	1 <sup>4</sup>	5	--	--	--	--
Mexico	6 <sup>4</sup>	127	--	--	25 <sup>4</sup>	105	--	--	1	125
Netherlands	1 <sup>4</sup>	125	--	--	3	41	(5) <sup>4</sup>	4	--	--
New Zealand	(5) <sup>4</sup>	19	--	--	9 <sup>4</sup>	144	--	--	--	--
Norway	5 <sup>4</sup>	116	--	--	2	24	--	--	--	--
Russia	45	1,920	--	--	--	--	--	--	--	--
Singapore	106 <sup>4</sup>	1,890	--	--	10 <sup>4</sup>	79	179	3,100	--	--
Spain	1 <sup>4</sup>	18	2	18	24 <sup>4</sup>	153	--	--	--	--
Switzerland	13 <sup>4</sup>	345	--	--	44 <sup>4</sup>	378	--	--	--	--
Taiwan	293 <sup>4</sup>	6,010	--	--	149 <sup>4</sup>	520	--	--	(5) <sup>4</sup>	21
Thailand	14 <sup>4</sup>	371	--	--	25 <sup>4</sup>	148	--	--	--	--
United Kingdom	126 <sup>4</sup>	3,950	812	32,600	822 <sup>4</sup>	4,030	74 <sup>4</sup>	836	--	--
Other	7 <sup>4</sup>	272	--	--	41 <sup>4</sup>	301	--	--	(5)	7
Total	2,320	71,300	3,370	62,300	3,040	20,200	494	8,290	256	36,100
Year to date	26,300	669,000	47,400	832,000	38,700	279,000	7,970	142,000	2,060	381,000

-- 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>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 ½ unit.

Source: U.S. Census Bureau.