

# Mineral Industry Surveys

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## PLATINUM-GROUP METALS IN JUNE 2008

According to Platts Metals Week, the average June price of platinum dropped slightly, whereas that of palladium increased by 3% compared with the average price in May. The average price of rhodium increased by 2% and that of ruthenium dropped by 15% during the same time period. The iridium price remained at \$450 per troy ounce since February 13, 2007. Prices of platinum were volatile throughout the month, ranging between \$2,010 and \$2,108 per troy ounce in daily trading, and reflecting changes both in oil prices and the strength of the U.S. dollar. Prices of palladium surged following an announcement on June 12 by an MMC Norilsk Nickel representative that Russian palladium stockpiles may be depleted in 1 to 5 years. The quantity of palladium in Russian stockpiles remains a state secret, and the announcement fueled supply fears (O'Connell, 2008). As a result of strong buying interest, rhodium prices surged in the middle of the month; between June 12 and 18, prices rose by \$525 to reach an alltime high of \$10,100 per troy ounce on June 18. Ruthenium prices continued the downward trend started in April as a result of weak buying interest as well as increased availability of recycled material.

Stillwater Mining Co. (Billings, MT) announced that it was continuing negotiations with the USW International Union for a new labor agreement, and that all parties had agreed to extend the expiration of the existing agreement until July 10. Until that time, operations were expected to continue as normal (Stillwater Mining Co., 2008). North American Palladium Ltd. (Toronto, Ontario, Canada) announced that it was on target to start up its Shebandowan West project in 2009. The preliminary economic assessment was expected to be completed by midyear, and the feasibility study was expected by yearend. According to company estimates, the Shebandowan West project contained identified resources of 2.9 million metric tons of ore with grades of 1.09 grams per ton (g/t) palladium and 0.34 g/t platinum in addition to 0.91% nickel, 0.62% copper, and 0.23 g/t gold (Platts Metals Week, 2008). Platinum Australia Ltd. (West Perth, Australia) announced updated resource estimates for three of the deposits at the Kalahari Project in South Africa. New estimates of contained metals for the Crux, Orion, and Crater deposits were 38,600 kilograms (kg) platinum, 18,700 kg palladium, and 21,200 kg gold (Mining Journal, 2008).

Anglo American Platinum Corp. Ltd. (Johannesburg, South Africa) faced further international criticism for proceeding with its plans to develop the Unki Platinum Mine in Zimbabwe. Investigations were ongoing of whether the Anglo's investments breached sanctions against Zimbabwe, imposed as a result of the political turmoil in that country. Anglo Platinum responded by stating its deep concern over the political situation, but pointed out that it has invested in Zimbabwe for the last 60 years, it has responsibility to protect the well-being of its employees there, and that the Zimbabwe Government would assume control if Anglo stops investing there (Johnson Matthey plc, 2008a). The Zimbabwe Government announced that it may seize control of unexploited mining claims in order to hand them over to indigenous entrepreneurs or to other foreign investors based in countries including Russia and China (Nkala, 2008).

Automobile manufacturers Nissan Motor Co. Ltd. and Mazda Motor Corp. each announced success in using nanotechnology to minimize the quantity of the increasingly expensive PGM in catalytic converters. Nissan planned to apply its technology to cars starting early next year (Kim, 2008). General Motors Corp. announced that it would scale back production of trucks and sports utility vehicles as a result of poor sales, and shift toward low-emission cars (Johnson Matthey, 2008d). Several governments, including the United States, Canada, and the United Kingdom, announced plans to significantly invest in research initiatives in fuel cells, some of which use platinum as catalysts (Johnson Matthey plc, 2008c). California-based AC Transit announced it would purchase 8 fuel-cell-powered buses and hold the option for 13 more, in the largest procurement of fuel cell vehicles for public transportation in the United States. The first group of buses was scheduled for delivery in 2009 (Johnson Matthey plc, 2008b).

Total exchange-traded funds holdings at the end of June were 14,700 kg of platinum and 20,000 kg of palladium (CPM Group, 2008, p. 19, 23).

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

(Dollars per troy ounce)

	Platinum	Palladium	Rhodium	Iridium	Ruthenium
<b>2007:</b>					
Low/date	1,122.00 Jan. 8	322.00 Aug. 22	5,550.00 Jan. <sup>2</sup>	400.00 Jan. 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
<b>2008:</b>					
<b>May:</b>					
Low/date	1,880.00/02	408.00/01	9,200.00 <sup>2</sup>	450.00 <sup>2</sup>	330.00/30
High/date	2,185.00/23	456.00/22	9,900.00 <sup>2</sup>	450.00 <sup>2</sup>	390.00 <sup>2</sup>
Average	2,053.57	438.29	9,553.57	450.00	360.48
<b>June:</b>					
Low/date	1,990.00/05	424.00/05	9,525.00 <sup>2</sup>	450.00 <sup>2</sup>	300.00 <sup>2</sup>
High/date	2,108.00/18	480.00/20	10,100.00/18	450.00 <sup>2</sup>	330.00/02
Average	2,042.24	453.57	9,777.38	450.00	306.19
<b>Year-to-date:</b>					
Low/date	1,534.00 Jan. 7	368.00 Jan. 22	6,850.00 Jan. 2	450.00 Jan.—June <sup>2</sup>	300.00 June <sup>2</sup>
High/date	2,275.00 Mar. 4	585.00 Mar. 4	10,100.00 June 18	450.00 Jan.—June <sup>2</sup>	440.00 Feb. and Mar. <sup>2</sup>
Average	1,953.61	447.06	8,873.51	450.00	392.52

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

<sup>2</sup>Occured 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:												
March	81	2,870	4,410	248,000	133	7,710	815	41,200	5,740	30,900	3	93
April	5	281	3,380	216,000	188	11,500	727	29,300	12,500	58,700	4	104
May:												
Australia	--	--	--	--	--	--	--	--	--	--	(2) <sup>3</sup>	4
Belgium	--	--	230	14,700	--	--	--	--	--	--	--	--
Bolivia	--	--	--	--	--	--	--	--	932 <sup>3</sup>	237	--	--
Brazil	--	--	--	--	--	--	(2)	7	3,750 <sup>3</sup>	631	--	--
Canada	1	59	--	--	1	32	63	3,860	74	6,950	(2)	3
China	--	--	--	--	--	--	--	--	9	610	--	--
Colombia	--	--	--	--	127	6,120	--	--	62 <sup>3</sup>	1,450	--	--
France	--	--	--	--	--	--	--	--	238 <sup>3</sup>	4,130	--	--
Germany	--	--	144	8,850	91	4,390	252 <sup>3</sup>	5,170	615	54,800	--	--
Hong Kong	--	--	--	--	--	--	3	221	327 <sup>3</sup>	1,120	--	--
Israel	--	--	--	--	8	295	--	--	3	190	--	--
Italy	--	--	52	3,380	32	1,880	88	5,930	--	--	--	--
Japan	--	--	--	--	--	--	2 <sup>3</sup>	20	--	--	--	--
Jordan	--	--	--	--	--	--	--	--	11 <sup>3</sup>	190	--	--
Korea, Republic of	--	--	--	--	--	--	6 <sup>3</sup>	180	20	720	--	--
Mexico	--	--	--	--	4	235	1	98	160	10,500	--	--
Norway	--	--	148	9,400	--	--	--	--	--	--	--	--
Philippines	--	--	--	--	--	--	--	--	10	335	--	--
Russia	--	--	61	3,900	218	13,600	--	--	--	--	--	--
South Africa	--	--	1,900	120,000	--	--	88	6,010	--	--	--	--
Switzerland	--	--	--	--	--	--	(2)	5	--	--	--	--
Taiwan	--	--	--	--	--	--	(2)	29	25 <sup>3</sup>	373	--	--
Thailand	--	--	--	--	--	--	1	41	127	9,310	--	--
Turkey	--	--	--	--	--	--	--	--	1	37	--	--
United Arab Emirates	--	--	--	--	--	--	--	--	2 <sup>3</sup>	35	--	--
United Kingdom	--	--	2,220	148,000	(2)	5	23	1,410	--	--	--	--
Venezuela	--	--	--	--	--	--	--	--	95 <sup>3</sup>	102	--	--
Total	1	59	4,760	308,000	482	26,500	529	23,000	6,460	91,800	(2)	7
Year to date	175	5,490	22,300	1,280,000	1,470	83,000	3,670	163,000	46,600	265,000	8	494

-- 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>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)
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:												
March	8,120	121,000	524	13,300	356	5,300	--	--	4,210	50,600	1,350	296,000
April	6,850	98,000	315	4,870	178	2,610	--	--	4,270	42,100	845	201,000
May:												
Belgium	35	499	--	--	--	--	--	--	--	--	134	28,200
China	--	--	--	--	--	--	8	56	--	--	--	--
Germany	24	337	13	124	12	210	--	--	1,950	14,600	126 <sup>3</sup>	16,500
Italy	221	3,350	7	121	--	--	--	--	--	--	37 <sup>3</sup>	9,370
Japan	320 <sup>3</sup>	2,200	15 <sup>3</sup>	41	--	--	--	--	25	249	--	--
Norway	1,510	21,100	--	--	--	--	--	--	--	--	11	3,420
Russia	4,020	57,200	--	--	--	--	--	--	484	4,670	121	35,600
South Africa	808	11,600	9	150	87	1,140	--	--	761	9,290	339	86,100
Switzerland	62	854	22	388	--	--	--	--	--	--	--	--
Thailand	--	--	(4) <sup>3</sup>	2	--	--	--	--	--	--	--	--
United Kingdom	760	10,900	31	492	20 <sup>3</sup>	306	--	--	262	3,030	363 <sup>3</sup>	106,000
Total	7,760	108,000	98	1,320	119	1,660	8	56	3,480	31,900	1,130	285,000
Year to date	44,100	588,000	3,030	50,300	996	14,700	11	101	18,900	204,000	5,860	1,230,000

-- 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.

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)
2007	28,900	\$763,000	54,400	\$924,000	41,800	\$298,000	8,190	\$145,000	2,210	\$401,000
2008:										
March	474	19,700	5,690	99,600	2,360	22,900	394	6,080	389	50,400
April	1,550	69,400	5,540	106,000	1,830	15,400	993	12,600	58	14,300
May:										
Australia	2 <sup>4</sup>	75	--	--	43 <sup>4</sup>	403	--	--	--	--
Austria	1 <sup>4</sup>	33	--	--	--	--	--	--	--	--
Belgium	24 <sup>4</sup>	929	161	575	49	881	--	--	--	--
Brazil	7	438	--	--	4	55	--	--	--	--
Canada	45	1,510	79 <sup>4</sup>	2,660	367	4,680	2	38	(5)	25
China	10	506	--	--	124	1,420	2	12	53	11,600
Colombia	(5) <sup>4</sup>	8	--	--	4	61	--	--	--	--
Costa Rica	-- <sup>4</sup>	--	--	--	10	33	--	--	--	--
Cyprus	16 <sup>4</sup>	1,060	--	--	--	--	--	--	--	--
Czech Republic	-- <sup>4</sup>	--	--	--	3	21	--	--	--	--
Denmark	(5) <sup>4</sup>	3	--	--	18 <sup>4</sup>	106	--	--	--	--
France	3	166	(5)	35	35 <sup>4</sup>	329	(5)	3	(5) <sup>4</sup>	3
Germany	1,260 <sup>4</sup>	47,800	2,840	28,700	882 <sup>4</sup>	3,760	3	46	70	21,200
Hong Kong	3 <sup>4</sup>	541	--	--	92	993	23	269	--	--
India	(5)	35	--	--	--	--	--	--	(5)	15
Ireland	32 <sup>4</sup>	982	--	--	23	60	1	3	--	--
Israel	4 <sup>4</sup>	92	--	--	315	1,040	--	--	--	--
Italy	124 <sup>4</sup>	7,820	--	--	127	1,290	--	--	--	--
Japan	103	3,420	171	12,200	242 <sup>4</sup>	852	31	392	11	3,040
Korea, Republic of	4 <sup>4</sup>	93	--	--	6 <sup>4</sup>	9	1	8	--	--
Liechtenstein	(5) <sup>4</sup>	7	--	--	1 <sup>4</sup>	3	--	--	--	--
Malaysia	(5) <sup>4</sup>	11	--	--	(5) <sup>4</sup>	7	--	--	--	--
Mexico	2 <sup>4</sup>	56	--	--	3	32	10	241	(5)	43
New Zealand	(5) <sup>4</sup>	24	--	--	10	160	--	--	--	--
Norway	21 <sup>4</sup>	390	--	--	1 <sup>4</sup>	17	--	--	--	--
Philippines	(5)	28	--	--	(5) <sup>4</sup>	4	--	--	--	--
Romania	(5)	3	--	--	1	13	--	--	--	--
Saudi Arabia	--	--	1	75	1	7	--	--	--	--
Singapore	(5)	4	--	--	5	54	119	1,420	--	--
South Africa	--	--	--	--	1	21	--	--	(5)	3
Spain	(5) <sup>4</sup>	17	--	--	25	164	--	--	--	--
Sweden	1	63	--	--	1	9	--	--	--	--
Switzerland	310 <sup>4</sup>	15,500	--	--	9	153	--	--	--	--
Taiwan	180 <sup>4</sup>	3,810	--	--	119 <sup>4</sup>	613	93	1,490	--	--
Thailand	(5) <sup>4</sup>	166	--	--	12	193	--	--	--	--
Turkey	(5) <sup>4</sup>	6	--	--	2 <sup>4</sup>	9	--	--	--	--
United Arab Emirates	1 <sup>4</sup>	17	--	--	3	35	--	--	(5)	23
United Kingdom	99	2,980	540 <sup>4</sup>	37,300	681 <sup>4</sup>	3,680	24	295	--	--
Other	2 <sup>4</sup>	96	--	--	10 <sup>4</sup>	107	--	--	--	10
Total	2,250	88,700	3,790	81,500	3,230	21,300	310	4,220	135	36,000
Year to date	6,350	266,000	26,800	490,000	13,200	106,000	2,180	28,600	1,220	180,000

-- 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.