

Mineral Industry Surveys

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PRECIOUS METALS IN SEPTEMBER 2002

U.S. mines produced 25,100 kilograms (kg) of gold and 113,000 kg of silver in September 2002. Compared with August 2002, production of gold was up 19% in Nevada, and production of silver was up 6% in Nevada.

Gold

Domestic.—The U.S. Senate passed an amendment to the Department of the Interior Appropriations bill that prohibits Glamis Gold Ltd. from developing its Imperial gold mine in the Southern California desert. The proposed project would have developed an open pit gold mine, which would mine 650 hectares of land that included 22 hectares of recorded Native American tribal sites eligible for listing in the National Register of Historic Places (American Metal Market, 2002e).

The World Gold Council reported that U.S. gold purchases rose by 2.8% year-on-year to 70,200 kg (2.3 million troy ounces) in the second quarter of 2002. The increase was supported by a 41% surge in U.S. investment demand, which increased from 2,900 kg (93,000 ounces) to 4,100 kg (132,000 ounces). The United States also showed a surprising 1% increase in demand for gold jewelry. World gold demand was 729,000 kg (23.4 million ounces) in the second quarter of 2002, about 14% lower than the same quarter in 2001. The actual amount spent on gold, however, remained stable at \$7.3 billion as the gold price rose by an average \$45 per ounce (American Metal Market, 2002c).

International.—United States, European, and Pakistani investigators claimed that financial agents of al Qaeda and the Taliban shipped large quantities of gold out of Pakistan through the United Arab Emirates and Iran to Sudan. Shipments of gold, which were disguised as other products, were taken from the Pakistani port of Karachi to either Iran or Dubai, mixed with other goods, and flown by chartered aircraft to Khartoum, the Sudanese capital. Although it is not clear how much gold was

moved, the quantity was believed to be significant. Gold has been the preferred financial instrument of al Qaeda and the Taliban for years. Most of the Taliban treasure was kept in gold when its militia ruled Afghanistan, and taxes often were collected in gold (American Metal Market, 2002d).

Crystallex International Corp. received approval from the Venezuelan government to develop the Las Cristinas gold mine. The property, which is estimated to contain about 370,000 kg (12 million ounces) of gold, is among the top five undeveloped gold deposits in the world and the largest untapped gold deposit in South America. When fully operational, Las Cristinas is expected to produce more than 40,000 metric tons of ore per day. Some conflicting legal claims remain on the property, especially the dispute by Vanessa Ventures Ltd., which claims to hold the mining permit and a contract with Corporacion Venezolana de Guayana for development of Las Cristinas. The Venezuelan government seized control of the property from Vanessa earlier this year (American Metal Market, 2002b).

Gold Fields Mineral Services reported that world gold mine production fell 5% during the first half of 2002 with much of the decline coming from Indonesia and the United States. Mine production for the full year is forecast to fall by 3%. In the first half of 2002, gold production costs were reported to have fallen by \$3 to \$174 per ounce of gold. South Africa became the lowest cost producer and the United States was the highest (Platts Metals Week, 2002b).

The London Bullion Market Association's gold clearing statistics fell in August. Gold transfers fell 1.2% in comparison with those of July, reaching 532,000 kg (17.1 million troy ounces). The number of gold transfers fell to 718 per day from 744 per day. In comparison with those of August 2001, kilograms of gold transferred were 14% lower than in August 2002 (Platts Metals Week, 2002c).

Australia-based East African Gold Mines Ltd. opened its

North Mara gold mine in northwest Tanzania. North Mara, which is one of the most modern mines built in Africa, has an average ore grade of 3 grams per ton gold and has a potential of 6,500 kg (210,000 ounces) gold output per year. The mine life is expected to be about 9 years (Platts Metals Week, 2002a).

The Swiss National Bank sold 7,800 kg (250,000 ounces) of gold during the first 10 days of September. The central bank has been selling about 21,000 kg (675,000 ounces) of gold per month since it began selling surplus gold reserves in May 2000 with the goal of raising \$12.7 billion. The government will retain the proceeds of the gold sales, but has not decided how to distribute investment returns over the next 30 years as voters rejected, on September 22, proposals that would have established a humanitarian foundation, divided earnings equally between regional council budgets, or financed old-age pensions (American Metal Market, 2002f).

Barrick Gold Corp. launched a \$2 billion mine development plan. Under the plan, the Alto Chicama prospect in Peru and the Cowal prospect in New South Wales, Australia, will be developed by 2005. Barrick production from the Valadero gold prospect in Argentina will be added in 2006, and the nearby Pascua-Lama prospect will come on stream by 2008. In addition, Barrick will increase its exploration and development to \$95 million in 2002 (American Metal Market, 2002a).

Silver

Silver prices declined in the third quarter of 2002 along with most other metal prices. Zinc, a major source of byproduct silver, dropped to record lows in real dollar terms (Plachy, 2002). These price declines are due to a drop in industrial demand that began in mid-2000. Silver is widely used in the electronics and high-technology sectors where demand remains very weak. Little speculative buying was apparent during the third quarter, in contrast to the first quarter 2002. However, strong physical buying has been reported at current low prices. Based on nine months of data, world mine supply of silver is expected to decrease in 2002 for the first time in 6 years.

Platinum-Group Metals

Update.—Stillwater Mining Company, Columbus, MT, and Russian platinum-group metals (PGM) producer MMC Norilsk Nickel announced on November 20, 2002, the signing of an agreement whereby Norilsk will acquire a controlling interest in Stillwater Mining, North America's only leading primary PGM producer. Norilsk will acquire a 51% majority ownership in Stillwater through the issuance of 45.5 million newly issued shares of Stillwater common stocks in exchange for \$100 million

cash and about 27,200 kg of palladium, valued at \$241 million (based on the November 19, 2002, London PM fix). The deal represents \$7.50 per share, which is slightly higher than the closing market price of \$7.48 per share on November 19, 2002. Under the agreement, if the price of shares in Stillwater falls below \$7.50 during the 15 trading days after the deal is closed, Norilsk will make a cash offer of \$7.50 per share within 30 days of closing for up to 10% of the existing shares in Stillwater. This additional share purchase would increase Norilsk Nickel's ownership in Stillwater Mining to approximately 56%.

Stillwater expects to gradually market the palladium that it will receive from Norilsk over time, depending on market conditions and on its ability to place palladium pursuant to long-term contracts. The companies have further agreed to negotiate, within 6 months of closing the equity deal, a marketing agreement under which Stillwater will purchase at least 31,100 kg of palladium annually from Norilsk for subsequent resale to Stillwater customers pursuant to long-term contracts. These agreements have been accepted by the boards of directors of Norilsk and Stillwater. The deal also needs the approval of Stillwater's lenders to and U.S. regulatory agencies, particularly for antitrust clearance under the Hart-Rodino Act (Stillwater Mining Company, 2002).

References Cited

- American Metal Market, 2002a, Barrick Gold launches \$2B plan to double profits, reduce hedge: American Metal Market, v. 110, no. 86-3, September 18, p. 4.
- American Metal Market, 2002b, Crystallex gets Venezuelan go-ahead for gold mine: American Metal Market, v. 110, no. 85-3, September 11, p. 6.
- American Metal Market, 2002c, Gold Council sees modest demand increase as U.S. economy recovers: American Metal Market, v. 110, no. 86-3, September 18, p. 4.
- American Metal Market, 2002d, Investigators claim al Qaeda and Taliban ship gold to Sudan: American Metal Market, v. 110, no. 84-2, September 5, p. 1.
- American Metal Market, 2002e, Senate blocks Glamis desert gold mine plan: American Metal Market, v. 110, no. 87-2, September 24, p. 7.
- American Metal Market, 2002f, Swiss bank sells off more gold: American Metal Market, v. 110, no. 86-4, September 19, p. 4.
- Plachy, Jozef, 2002, Zinc in August 2002: U.S. Geological Survey, Mineral Industry Surveys, November, 7 p.
- Platts Metals Week, 2002a, EAGM opens Tanzanian gold mine: Platts Metals Week, v. 73, no. 37, September 16, p. 11.
- Platts Metals Week, 2002b, GFMS forecasts H2 average gold price around \$316/oz: Platts Metals Week, v. 73, no. 39, September 30, p. 13.
- Platts Metals Week, 2002c, Gold transferred down again in August: Platts Metals Week, v. 73, no. 37, September 16, p. 11.
- Stillwater Mining Company, 2002, Norilsk Nickel to invest \$341 million in Stillwater Mining in exchange for majority interest: Columbus, MT, Stillwater Mining Company press release, November 24, 4 p.

TABLE 1
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE 1/

(Kilograms)

Gold	Alaska	California	Nevada	Other States 2/	Total
2001:					
September	W	699	20,700	5,000	26,400
October	W	746	21,100	7,920	29,800
November	W	793	20,800	4,810	26,400
December	W	871	24,100	4,820	29,800
January-December p/	9,190	13,800	253,000	58,800	335,000
2002:					
January	W	954	16,400	4,270	21,600
February	W	797	16,600	3,990	21,400
March	W	1,000	18,600	4,430	24,000
April	W	893	20,800	4,150	25,900
May	W	788	18,600	3,680	23,000
June	W	907	19,600	3,510	24,000
July	W	770	18,900	3,590	23,300
August	W	656 r/	17,400 r/	3,120 r/	21,100 r/
September	W	620	20,700	3,790	25,100
January-September	W	7,380	168,000	34,500	209,000
Silver	Arizona	Idaho	Nevada	Other States 3/	Total
2001:					
September	W	W	48,200	72,400	121,000
October	W	W	36,500	79,200	116,000
November	W	W	45,200	74,400	120,000
December	W	W	54,400	89,100	144,000
January-December p/	W	40,600	555,000	1,010,000	1,600,000
2002:					
January	W	W	38,900	85,500	124,000
February	W	W	48,800	78,200	127,000
March	W	W	49,300	89,600	139,000
April	W	W	30,800	83,700	115,000
May	W	W	36,900	88,600	126,000
June	W	W	30,300	84,700	115,000
July	W	W	34,800	83,600	118,000
August	W	W	28,100 r/	84,900 r/	113,000 r/
September	W	W	29,800	83,300	113,000
January-September	W	W	328,000	762,000	1,090,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other States."

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

2/ Includes Arizona, Colorado, Idaho, Montana, New Mexico, South Carolina, South Dakota, Utah, Washington, and State indicated by symbol W.

3/ Includes Alaska, California, Colorado, Missouri, Montana, New Mexico, New York, South Carolina, South Dakota, Tennessee, Utah, Washington, and States indicated by symbol W.

TABLE 2
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

	Gold	Silver	Platinum	Palladium
Engelhard Industries:				
2001:				
Low/date	257.04 April 2	4.05 November 26	419.00 November 7	319.00 November 13
High/date	294.40 September 17	4.87 January 30	645.00 January 10 and 15	1,100.00 January 26
Average	272.22	4.39	533.31	610.61
2002:				
July:				
Low/date	304.17/29	4.62/31	524.00/23 and 24	319.00/1
High/date	324.10/19 and 22	5.15/15	536.00/15	334.00/29
Average	314.70	4.94	529.67	325.52
August:				
Low/date	303.41/1	4.43/23	527.00/1	320.00/1 and 2
High/date	317.89/12	4.69/7	574.00/28	349.00/27
Average	311.36	4.55	548.91	327.55
September:				
Low/date	314.18/4	4.50/4	542.00/4	318.00/27
High/date	327.50/24	4.69/24	577.00/24	338.00/13 and 16
Average	320.69	4.60	558.75	330.50
Year to date:				
Low/date	278.62 January 29	4.26 January 31	454.00 February 1	318.00 September 27
High/date	330.66 June 4	5.15 June 4 and July 15	577.00 September 24	439.00 January 3
Average	307.03	4.65	526.52	358.08
Handy and Harman:				
2001, Average				
	271.06	4.39	XX	XX
2002:				
July	313.51	4.95	XX	XX
August	310.18	4.56	XX	XX
September	319.49	4.59	XX	XX
Average year to date	305.85	4.65	XX	XX
London Final: 1/				
2001, Average				
	270.99	4.37	XX	XX
2002:				
July	313.29	4.92	XX	XX
August	310.25	4.55	XX	XX
September	319.14	4.55	XX	XX
Average year to date	305.79	4.63	XX	XX

XX Not applicable.

1/ Silver price reported as "London Spot/US Equiv."

Source: Platts Metals Week.

TABLE 3
U.S. IMPORTS AND EXPORTS OF GOLD 1/

(Kilograms of gold content, unless otherwise specified)

Period and country	Ores and concentrates 2/	Doré and precipitates	Refined bullion 3/	Ash and residues	Total 4/	Waste and scrap (gross weight)	Metal powder (gross weight)	Gold compounds (gross weight)
Imports for consumption:								
2001	1,260	31,100	161,000	193	194,000	26,400	9,450	1,960
2002:								
June	514	2,650	16,700	--	19,800	590	688	1,400
July	1	2,480	14,700	--	17,200	902	852	1,960
August:								
Aruba	--	--	138	--	138	--	--	--
Australia	1	--	1	--	2	--	--	--
Brazil	--	--	1,570	--	1,570	--	--	--
Canada	280	5	13,100	--	13,400	129 5/	124	--
Chile	--	--	900	--	900	--	--	--
Colombia	--	506	66	--	571	--	631	--
Dominican Republic	--	--	4	--	4	387	28	--
Germany	--	--	1	--	1	--	--	1,060 5/
Honduras	--	516	--	--	516	--	406	--
Japan	--	--	--	--	--	--	--	2,590 5/
Mexico	--	40	157	--	197	92	--	--
Nicaragua	--	175	--	--	175	--	--	--
Peru	--	1,390	--	--	1,390	--	--	--
Switzerland	--	--	--	--	--	--	1	--
Other	--	104	173	--	278	161	--	15 5/
Total	281	2,730	16,100	--	19,100	769	1,190	3,670
Year to date	1,090	19,000	122,000	--	142,000	7,380	9,220	12,500
Exports:								
2001	361	93,900	395,000	--	489,000	40,100	11,600	492,000
2002:								
June	44	5,960	15,500	--	21,500	13,400	927	44,700
July	32	7,520	17,800	--	25,400	8,170	1,140	42,200
August:								
Belgium	--	--	--	--	--	163	--	--
Cambodia	--	--	--	--	--	--	--	1,460 5/
Canada	--	23	126	--	149	3,320 5/	--	11,500 5/
Dominican Republic	44	--	1	--	45	3	--	1,670 5/
France	--	--	1	--	1	--	4	--
Germany	--	--	1	--	1	385 5/	21	681 5/
Guatemala	--	--	--	--	--	480	--	--
Hong Kong	--	--	--	--	--	--	1	2,310 5/
Israel	--	--	--	--	--	--	2	8,760 5/
Japan	--	--	1	--	1	2	1 5/	185 5/
Luxembourg	--	--	4,980	--	4,980	--	--	--
Mexico	--	--	1,720	--	1,720	2	--	--
Peru	--	--	332	--	332	--	54	--
Switzerland	--	6,560	4,350	--	10,900	189	63	--
Taiwan	--	--	--	--	--	--	1	--
United Arab Emirates	--	--	1,990	--	1,990	--	--	--
United Kingdom	--	2	1,900	--	1,900	4,990 5/	9	4,180 5/
Other	--	2	104	--	106	59	--	--
Total	44	6,580	15,500	--	22,100	9,600	155	30,700
Year to date	376	43,900	114,000	--	159,000	41,100	10,000	262,000

-- Zero.

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

2/ Includes gold content of base metal ores, concentrates, and matte imported for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ "Waste and scrap," "Metal powder," and "Gold compounds" not included in "Total."

5/ 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. IMPORTS FOR CONSUMPTION OF SILVER 1/

(Kilograms of silver content, unless otherwise specified)

Period and country	Bullion	Doré	Ores and concentrates 2/	Ash and residues	Total	Other unwrought silver (gross weight)	Metal powder (gross weight)	Silver nitrate (gross weight)	Semimanufactured form 3/ (gross weight)	Waste and scrap (gross weight)
2001	2,940,000	151,000	7,550	38,000	3,130,000	249,000	24,200	26,000	153,000	1,110,000
2002:										
June	283,000	591	--	3,830	288,000	10,900	967	500	16,100	48,400
July	285,000	764	247	2,960	289,000	24,600	454	--	29,700	55,200
August:										
Australia	--	--	--	345	345	--	--	--	--	15,600
Belgium	1,680	--	--	--	1,680	--	--	--	--	1,040
Brazil	--	--	--	15	15	--	--	--	21,300	--
Canada	91,500	219	435 4/	1,530	93,600	19,500 4/	--	--	182 4/	11,800
Chile	8,000	--	--	--	8,000	--	--	--	--	1
China	--	--	--	--	--	--	--	--	--	788
Colombia	--	478	--	--	478	--	--	--	--	--
Dominican Republic	--	--	--	--	--	--	--	--	--	54
France	--	--	--	--	--	626	--	--	88	--
Germany	--	--	--	--	--	--	820	--	4,030 4/	569
India	--	--	--	--	--	95	--	--	834 4/	--
Italy	--	--	--	--	--	26 4/	--	--	1,440 4/	20,200
Japan	--	--	--	1 4/	1	--	310 4/	--	729 4/	1
Korea, Republic of	--	--	--	--	--	--	11 4/	--	470 4/	2
Mexico	194,000	--	--	1,160 4/	195,000	25,600	--	--	29 4/	2,130
Panama	70	--	--	--	70	--	--	--	--	--
Peru	15,700	--	--	--	15,700	--	--	--	--	--
Poland	--	--	--	--	--	--	--	--	551	--
South Africa	--	--	--	--	--	--	--	--	--	1,500
Sweden	--	--	--	--	--	--	--	--	--	256
Taiwan	--	--	--	--	--	--	--	--	116	--
Thailand	--	--	--	--	--	--	--	--	59	--
United Kingdom	--	--	--	3,710	3,710	--	--	--	1 4/	1,150
Other	--	--	--	--	--	--	5 4/	--	(5/) 4/	34
Total	311,000	698	435	6,760	319,000	45,800	1,150	--	29,800	55,100
Year to date	2,690,000	3,140	3,350	45,400	2,740,000	152,000	6,130	532	173,000	420,000

-- Zero.

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

2/ Includes silver content of base metal ores and concentrates.

3/ Containing 99.5% or more by weight of silver.

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

5/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF SILVER 1/

(Kilograms of silver content, unless otherwise specified)

Period and country	Bullion	Doré	Ores and concentrates 2/	Total	Other unwrought silver (gross weight)	Metal powder (gross weight)	Silver nitrate (gross weight)	Semimanufactured form 3/ (gross weight)	Waste and scrap (gross weight)
2001	707,000	18,200	239,000	963,000	48,800	187,000	143,000	203,000	1,810,000
2002:									
June	19,600	1,540	39,500	60,700	881	26,100	15,000	66,700	223,000
July	17,100	2,470	20,300	39,800	671	32,200	9,270	34,300	153,000
August:									
Australia	--	--	--	--	--	--	5,600	--	--
Belgium	--	--	--	--	--	58	--	30	22,600
Canada	1,140	--	--	1,140	2,260	653	4,470	2,800 4/	36,600
China	--	--	--	--	--	--	--	102	11,700
Dominican Republic	--	--	--	--	97	--	--	112	--
Finland	--	--	--	--	--	824	--	--	--
France	--	--	--	--	--	496	--	743	--
Germany	--	--	--	--	--	10,500	2 4/	339 4/	6,450
Hong Kong	--	--	--	--	58 4/	2,100	--	959	--
India	--	--	--	--	--	--	--	19	787
Indonesia	--	--	--	--	--	--	--	--	172
Italy	--	--	--	--	17 4/	--	--	609	25,200
Japan	--	--	--	--	143 4/	2,510	--	6,290	2,990
Korea, Republic of	--	--	--	--	16	4,850	--	1,950	--
Luxembourg	--	--	--	--	--	--	--	71	--
Mexico	108,000	--	--	108,000	--	--	586	928 4/	249
Netherlands	--	--	120 4/	120	--	350	--	689	1,110
New Zealand	--	--	--	--	--	--	--	88	--
Philippines	--	--	--	--	--	230	--	194	--
Poland	--	--	--	--	--	--	--	945	--
Saudi Arabia	--	--	--	--	--	--	--	--	3,680
Senegal	--	--	--	--	--	600	--	--	--
Singapore	277	--	--	277	--	116	--	2,370 4/	--
Spain	--	--	--	--	--	21 4/	--	1,130	--
Sweden	--	--	--	--	7 4/	54	--	--	12,400
Switzerland	--	1,720	--	1,720	--	35	--	--	--
Taiwan	--	--	--	--	--	7,670	132	763	--
United Kingdom	--	--	--	--	39	8,000	--	542 4/	68,100
Uruguay	--	--	--	--	--	--	--	1,690	--
Other	51	--	--	51	28	111	--	248	29
Total	110,000	1,720	120	111,000	2,670	39,100	10,800	23,400	192,000
Year to date	555,000	14,600	131,000	701,000	25,500	173,000	63,000	200,000	1,610,000

-- Zero.

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

2/ Includes silver content of base metal ores and concentrates.

3/ Semimanufactured (including silver plated with gold or platinum) forms of silver.

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

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS 1/

(Kilograms of metal content)

Period and country	Platinum grain and nuggets	Platinum sponge	Other unwrought platinum	Platinum, other	Platinum waste and scrap	Platinum coins	Unwrought palladium	Palladium, other	Iridium 2/	Unwrought osmium	Unwrought ruthenium	Rhodium 3/
2001	2,480	68,700	3,660	5,330	3,960	53	146,000	13,600	3,110	77	8,170	12,400
2002:												
June	125	6,040	187	402	42,400 4/	--	14,400	717	217	--	723	477
July	182	3,850	236	577	12,300	2	5,670	648	207	--	360	423
August:												
Argentina	--	236	--	--	--	--	--	--	--	--	--	--
Belgium	--	581	--	--	--	--	1,280	129	--	--	--	90
Brazil	--	--	--	--	102	--	--	--	--	--	--	--
Canada	7	--	--	33	12	--	--	--	--	--	--	--
Chile	--	--	--	--	7	--	--	--	--	--	--	--
China	--	--	--	--	--	--	100	--	--	--	--	--
Colombia	--	--	57	1	(5/)	--	--	--	--	--	--	--
Czech Republic	--	--	--	2 4/	--	--	--	--	--	--	--	--
Germany	--	178	57	203	222	--	182	514 4/	24	--	49	30
Guadeloupe	--	--	--	--	--	--	--	--	--	--	--	(5/)
Israel	--	--	74	--	--	--	--	--	--	--	--	--
Italy	--	9	--	21	--	--	--	44	--	--	--	--
Japan	--	--	--	--	3	--	270	46 4/	--	--	--	--
Korea, Republic of	--	--	--	--	25	--	--	--	--	--	--	--
Mexico	--	--	--	--	11	--	--	--	--	--	--	--
Nigeria	--	--	--	1	--	--	--	--	--	--	--	--
Norway	--	18	--	--	--	--	206	24	--	--	--	90
Russia	4	616	--	1	--	--	--	--	--	--	--	--
Saudi Arabia	--	--	--	--	2	--	--	--	--	--	--	--
South Africa	124	3,890	--	--	--	--	1,530	280	65	--	793	391
Sweden	--	--	--	--	--	--	127 4/	--	--	--	--	--
Switzerland	62	80	1	9 4/	--	--	21	47	--	--	--	--
Thailand	--	--	--	--	22	--	--	--	--	--	--	--
United Kingdom	39	1,700 4/	--	59	58	--	357	312 4/	111 4/	--	198	15
Total	237	7,310	189	329	464	--	4,070	1,400	200	--	1,040	617
Year to date	1,120	48,600	1,980	3,210	72,700	15	58,200	6,670	1,650	3	7,550	5,300

-- Zero.

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

2/ Unwrought and other forms of iridium.

3/ Unwrought and other forms of rhodium.

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

5/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 7
U.S. EXPORTS OF PLATINUM-GROUP METALS 1/

(Kilograms of metal content, unless otherwise specified)

Period and country	Palladium 2/	Platinum 2/	Platinum waste and scrap	Iridium, osmium, and ruthenium 2/ 3/	Rhodium 2/
2001	37,000	29,300	12,900	1,370	982
2002:					
June	7,520	1,940	2,000	229	28
July	3,980	2,180	1,440	231	34
August:					
Australia	33	31 4/	--	--	--
Austria	--	--	--	(5/)	--
Belgium	5	8	7	--	--
Brazil	14	133	--	1	--
Canada	70 4/	185	189	--	(5/)
China	31	128	--	(5/)	--
Colombia	4	--	--	--	--
Denmark	3 4/	4	--	--	--
Dominican Republic	2	--	--	--	--
Finland	3	2	--	--	--
France	11	7	--	1	--
Germany	189 4/	699 4/	119	--	51
Haiti	2 4/	--	--	--	--
Hong Kong	20 4/	18	--	1	(5/)
Iceland	1 4/	--	--	--	--
India	1	--	--	--	(5/)
Ireland	--	5	--	90	--
Israel	13 4/	--	--	--	--
Italy	1	--	--	--	--
Japan	277 4/	655	95	--	8
Korea, Republic of	21	2	--	--	--
Kuwait	3	--	--	--	--
Macau	3 4/	1	--	--	--
Malaysia	--	15	--	--	--
Mexico	22 4/	4	--	1	(5/)
Netherlands	70	2	--	1	--
New Zealand	11 4/	4	--	--	--
Philippines	9 4/	--	--	--	--
Romania	--	1	--	--	--
Singapore	6 4/	5 4/	--	--	(5/)
Sweden	4 4/	3	--	--	--
Switzerland	6	7	--	--	--
Taiwan	375 4/	218	--	1	--
Thailand	26 4/	6	--	--	--
Turkey	1	--	--	--	--
United Arab Emirates	2	--	--	--	--
United Kingdom	211 4/	318 4/	1,290	56	(5/)
Total	1,450	2,460	1,700	151	60
Year to date	33,700	18,800	8,190	1,240	235

-- Zero.

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

2/ Unwrought and other forms.

3/ Gross weight.

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

5/ Less than 1/2 unit.

Source: U.S. Census Bureau.