



U.S. Department of the Interior • Bureau of Mines

MINERAL INDUSTRY SURVEYS

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Platinum, Quarterly

PLATINUM-GROUP METALS IN THE SECOND QUARTER 1990

Imports of rhodium metal were up substantially in the first quarter 1990, with most of the metal coming from the United Kingdom, according to the Bureau of Mines, U.S. Department of the Interior.

Prices of rhodium soared to as much as \$7,200 per ounce during the last week of June, a record high. In 1989, the average dealer price for rhodium was only \$1,300 per ounce. Panic buying by automobile manufacturers and rhodium refinery production problems in late-1989 reportedly contributed to the price rise. The decision by the European Community to require emission controls on all new automobiles by the beginning of 1993 was also a factor. In addition, U.S. automobile companies may need to purchase more rhodium if legislation now before Congress to reduce NO_x emission limits becomes law. According to a report published by the Congressional Research Service (CRS), if Federal emission limits for NO_x are lowered from the current 1.0 gram per mile level to the proposed 0.4 gram per mile level, the average amount of rhodium used per catalytic converter could double from 0.006 troy ounce to 0.012 troy ounce. The new emission limits would not take effect until model year 1993. The additional amount of rhodium needed for autocatalysts is expected to come from the expansion of existing South African mines and newly opened South African mines.

Copies of the April 1990 report, #90-219 ENR, are available from CRS by contacting the production coordinator at 202-707-7214, or by writing to:

Congressional Research Service/Rm. 423
Library of Congress
Environment and Natural Resources Policy
Division
Washington, DC 20540

Sumitomo Corp. of America purchased Catalyst Collectors Corp. (CCC), Union, NJ, and CCC's network of autocatalyst collectors. Sumitomo, an international trading company, plans to offer scrap collectors financing capabilities, hedging capabilities, and precious metal refining services.

Johnson Matthey PLC announced plans to build a new autocatalyst plant in the Republic of South Africa, with a capacity of 2 million units per year. The plant will cost \$13.22 million and is to be located in Germiston, near Johannesburg. Production is scheduled to begin next year and will supply primarily German auto manufacturers.

General Motors Corp. won a 5-year contract to supply pollution-control and engine-control parts to Volga Auto Works, or VAZ, the U.S.S.R.'s largest auto maker. GM plans to begin shipping autocatalysts to VAZ's factory beginning in 1992 (The Wall Street Journal, 6/8/90).

Degussa AG of the Federal Republic of Germany developed a new catalytic converter that works on engines that use alcohol-based fuels. The converters were designed for Brazilian automobiles. New legislation will require automobiles in Brazil to have converters by 1992.

Beginning in April, Marville Corp. sought a buyer for its 50% stake in the Stillwater Mine, the only PGM mine in the United States. Marville retained Salomon Brothers to solicit bids. Marville is a diversified natural resources company, with the Stillwater Mine representing only a small portion of its total assets. Chevron Resources owns the other 50% of the Stillwater Mine.

The National Defense Stockpile goal for palladium was lowered on June 20, 1990, from 93,311 kilograms to 66,873 kilograms, and the goal for iridium was lowered from 3,048 kilograms to 2,675 kilograms. At present, the Stockpile contains 39,334 kilograms of palladium and 920 kilograms of iridium.

Table 1. - Platinum-group metals 1/ refined in the United States 2/
(Kilograms)

Period	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1989:							
Nontoll-refined:							
First quarter--	279	638	2	---	17	1	937
Second quarter--	253	780	5	---	13	12	1,060
Third quarter--	282	662	---	---	13	7	964
Fourth quarter--	290	818	---	---	45	15	1,169
Total 3/-----	1,196	2,959	8	---	94	37	4,293
Toll-refined:							
First quarter--	6,164	4,973	128	1	443	45	11,754
Second quarter--	5,492	5,621	39	---	415	84	11,651
Third quarter--	5,481	4,022	8	---	396	135	10,043
Fourth quarter--	7,392	8,362	44	---	586	108	16,493
Total 3/-----	24,058	20,037	219	1	1,565	373	46,253
1990:							
Nontoll-refined:							
First quarter--	398	720	1	---	37	6	1,162
Second quarter--	620	853	2	---	23	---	1,499
Toll-refined:							
First quarter--	9,169	5,922	32	---	699	108	15,930
Second quarter--	9,192	5,407	32	---	703	108	15,443

1/Typically, about 99.8% of the platinum and 99% of the palladium are secondary metal; the other metals are entirely secondary.

2/Data may not add to totals shown because of independent rounding.

3/Includes data for companies reporting annually; quarterly figures not adjusted.

Platinum & Palladium Production Toll-Refined Plus Nontoll-Refined

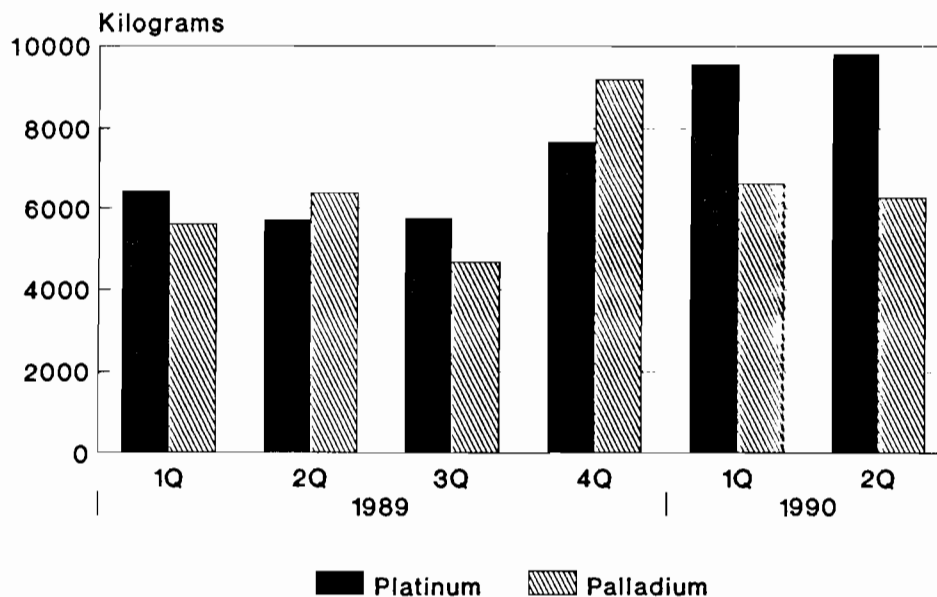


Table 2. - Stocks of platinum-group metals held by refiners, importers,
and dealers in the United States 1/
(Kilograms)

Period	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total 2/
1989:							
Mar. 31-----	13,497	13,908	449	8	1,031	699	29,592
June 30-----	12,434	12,318	424	9	1,092	853	27,130
Sept. 30-----	13,396	12,657	475	36	1,118	899	28,581
Dec. 31 -----	14,027	12,568	521	36	993	913	29,058
Yearend 3/----	14,791	15,182	522	36	1,096	916	32,543
1990:							
Mar. 31-----	r/13,266	r/10,750	521	40	974	936	r/26,487
June 30-----	12,790	10,739	522	43	965	918	25,978

r/Revised.

1/Includes metals in depositories of the New York Mercantile Exchange; on June 30, 1990, this comprised 4,361 kilograms of platinum and 1,272 kilograms of palladium.

2/Data may not add to totals shown because of independent rounding.

3/Includes data from companies reporting annually; quarterly figures not adjusted.

Table 3.- Platinum-group metals sold to consuming industries in the United States 1/
(Kilograms)

Period and industry	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1989:							
Automotive 2/----	18,774	4,886	---	---	1,982	---	25,643
Chemical-----	2,424	1,923	95	---	189	26	4,657
Dental and							
medical-----	632	8,424	105	57	1	15	9,233
Electrical-----	3,894	17,352	112	---	272	1,778	23,408
Glass-----	1,130	181	---	---	177	1	1,489
Jewelry and							
decorative----	418	179	7	---	205	6	814
Petroleum-----	2,859	2,543	---	---	27	---	5,429
Miscellaneous----	3,566	3,786	81	---	273	61	7,766
Year-----	33,698	39,273	400	57	3,126	1,886	78,439
=====							
1990:							
First quarter:							
Automotive 2/--	r/4,127	r/1,089	---	---	r/434	---	r/5,650
Chemical-----	265	422	6	---	44	2	738
Dental and							
medical-----	82	1,401	24	11	---	2	1,521
Electrical-----	961	4,049	32	---	177	152	5,371
Glass-----	104	173	---	---	5	---	282
Jewelry and							
decorative---	107	52	4	---	50	1	213
Petroleum-----	272	746	---	---	---	---	1,018
Miscellaneous--	1,113	712	33	---	1	10	1,869
Total-----	r/7,030	r/8,644	98	11	r/711	168	r/16,663
=====							
Second quarter:							
Automotive 2/--	4,902	1,291	---	---	516	---	6,709
Chemical-----	650	594	6	---	44	11	1,305
Dental and							
medical-----	79	1,389	24	9	---	2	1,504
Electrical-----	959	4,304	29	---	25	352	5,670
Glass-----	107	173	---	---	5	---	285
Jewelry and							
decorative---	107	49	4	---	50	1	211
Petroleum-----	219	365	---	---	---	---	584
Miscellaneous--	1,119	731	34	---	1	10	1,894
Total-----	8,142	8,896	97	9	641	377	18,162

r/Revised.

1/Data may not add to totals shown because of independent rounding.

2/Platinum, palladium, and rhodium sales to the automotive industry are estimated based on U.S. light truck sales and U.S. automobile production.

Platinum & Palladium Consumption Sales to Industry

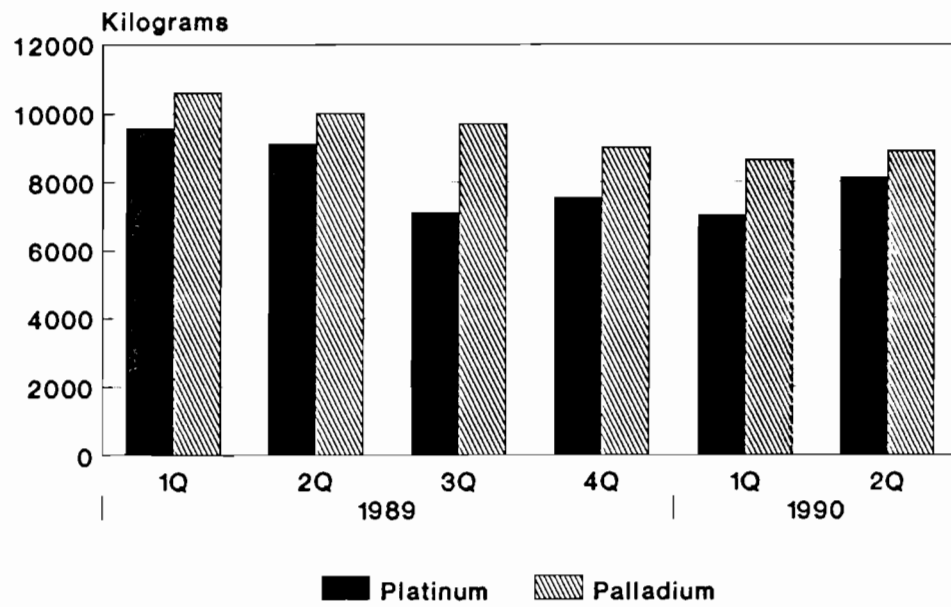


Table 4. - Monthly average producer and dealer prices of platinum-group metals 1/
(Dollars per troy ounce)

	Platinum		Palladium		Rhodium		Iridium 2/	Ruthenium	Osmium
	Pro- ducer	Dealer	Pro- ducer	Dealer	Pro- ducer	Dealer	Dealer	Dealer	Dealer
1989:									
January-----	600	528	150	135	1,275	1,247	295	64	580
February-----	600	530	150	141	1,275	1,254	293	62	580
March-----	600	534	150	145	1,275	1,271	295	62	580
April-----	600	538	150	166	1,275	1,274	300	62	570
May-----	600	515	150	152	1,275	1,280	303	62	550
June-----	600	494	150	152	1,275	1,275	305	61	550
July-----	600	500	150	150	1,275	1,269	305	61	550
August-----	600	483	150	134	1,275	1,247	305	61	550
September-----	600	476	150	137	1,275	1,265	305	62	550
October-----	600	483	150	137	1,275	1,269	305	63	529
November-----	600	504	150	138	1,275	1,302	307	63	500
December-----	600	502	150	137	1,275	1,644	313	63	500
Average-----	600	507	150	144	1,275	1,300	303	62	549
1990:									
January-----	600	492	150	134	1,275	2,031	315	63	505
February-----	600	516	150	135	1,275	2,098	310	61	444
March-----	600	494	150	130	1,275	2,058	310	61	425
April-----	600	475	150	127	1,275	2,108	310	61	421
May-----	600	484	150	118	1,275	2,308	305	61	400
June-----	600	479	150	115	1,275	2,960	305	61	400
July-----	600	475	150	116	1,275	5,040	305	61	400
Average-----	600	488	150	125	1,275	2,658	309	61	428

1/Average prices calculated at the low end of the range and rounded to the nearest dollar.

2/Producer price discontinued March 22, 1989.

Source: Metals Week.

Table 5. - U.S. imports for consumption of platinum-group metals
(Kilograms and thousand dollars)

Period and country	Platinum	Palla- dium	Rhodium	Ruthen- ium	Iridium	Os- mium	Waste and scrap	Ores	Total Quantity	Total Value
1989:										
First quarter	12,870	13,743	1,699	246	174	23	583	8	29,346	\$364,080
Second quarter	12,956	13,037	1,988	1,104	181	5	916	1	30,188	382,450
Third quarter	11,830	11,931	1,635	755	206	5	281	4	26,647	318,124
Fourth quarter	11,587	12,424	1,783	777	128	25	379	1	27,104	317,045
Total	49,243	51,135	7,105	2,882	689	58	2,159	14	113,285	1,381,699
1990:										
First quarter:										
Belgium	460	1,233	31	---	---	---	4	---	1,728	15,183
Canada	24	238	---	---	---	---	140	31	433	3,863
France	281	1	42	---	---	---	---	---	324	6,416
Germany, Federal Republic of	573	134	51	18	1	3	---	---	780	13,476
Hong Kong	---	---	---	---	---	---	104	---	104	1,647
Japan	94	---	---	---	---	---	6	---	100	3,247
Mexico	---	539	---	---	---	---	23	---	562	480
Netherlands	4	9	---	---	---	---	---	---	13	116
South Africa, Republic of	10,201	5,210	831	651	60	51	---	---	17,004	221,117
Switzerland	252	67	131	2	---	---	---	---	452	11,653
Taiwan	---	232	---	---	---	---	---	---	232	933
U.S.S.R.	123	2,506	377	---	---	---	---	---	3,006	36,628
United Kingdom	635	1,244	1,384	---	---	---	---	---	3,263	27,522
Other	413	314	84	12	3	---	71	---	897	8,600
Total	13,060	11,727	2,931	683	64	54	348	31	28,898	350,881

Source: Bureau of the Census and Bureau of Mines.

Table 6.--U.S. exports of platinum-group metals
(Kilograms and thousand dollars)

Period and country	Platinum	Palladium	Rhodium	Iridium, Osmium, Ruthenium	Waste and scrap	Quantity	Total 1/ Value
1989:							
First quarter	2,440	4,020	327	75	2,849	9,711	\$102,896
Second quarter	1,403	2,664	197	147	2,438	6,846	79,474
Third quarter	2,289	3,210	226	59	4,196	9,981	107,817
Fourth quarter	2,284	3,110	406	224	5,566	11,590	108,319
Total	8,416	13,004	1,156	505	15,049	38,128	398,506
1990:							
First quarter:							
Australia	20	9	---	7	---	36	353
Austria	---	21	---	---	---	21	84
Belgium	---	36	---	5	342	383	4,344
Brazil	10	12	---	---	---	22	197
Canada	81	251	254	8	105	699	7,148
France	1	9	---	1	15	26	168
Germany, Federal Republic of	365	151	---	23	1,087	1,626	14,052
Hong Kong	1	1	---	3	---	5	101
Italy	---	82	---	---	1,278	1,360	20,268
Japan	451	917	23	17	1,493	1,901	19,497
Korea, Republic of	126	27	19	---	3	175	2,916
Netherlands	2	624	---	---	---	626	3,370
Singapore	---	48	---	---	---	48	384
Sweden	---	---	---	80	47	127	440
Switzerland	1	160	---	---	---	161	1,000
Taiwan	376	31	---	15	---	422	4,978
United Kingdom	182	344	28	6	2,061	2,621	24,140
Other	30	539	---	86	---	655	3,474
Total	1,646	3,262	324	251	5,431	10,914	106,914

1/Date may not add to totals shown because of independent rounding.

Source: Bureau of the Census.