

Mineral Industry Surveys

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PRECIOUS METALS IN DECEMBER 2001

U.S. mines produced 25,200 kilograms (kg) of gold and 144,000 kg of silver in December 2001. Compared with November 2001, production of gold was up 10% in California and 9% in Nevada, and production of silver was up 20% in Nevada. Mine production, shown in table 1, of recoverable gold and silver in the United States for 2001 is estimated. Table 8 in this report lists the top 30 gold-producing mines in the United States for the first 9 months in 2001.

Gold

Domestic.—Placer Dome Inc. notified 210 workers at its Getchell gold mine, northeast of Winnemucca, NV, that layoffs would occur in two months. The layoff decision was based on low gold prices, not a lack of gold resources at Getchell. A skeleton crew of about 40 employees would remain at the mine (American Metal Market, 2001c).

Barrick Gold Corp.'s Rodeo underground gold mine moved into full production and produced 2,200 kg (70,000 troy ounces) of gold in 2001. Barrick's Rodeo and Meikle Mines were merged into one operation, integrating services and sharing one maintenance shop. An underground connection was made between the mines. Ore mined at Rodeo is hauled underground to Meikle and raised to the surface (Platts Metals Week, 2001a).

Glamis Gold Ltd. will boost gold output at its Marigold Mine in Nevada and extend the mine's life. Marigold produced 2,550 kg (82,000 ounces) of gold in 2001. An open-pit mine, planned for 2002, would become part of Marigold's expansion (Platts Metals Week, 2001b).

International.—The Bank of England sold 20,000 kg of gold at \$273.50 per ounce on November 27. The auction, which was 2.6 times oversubscribed, was the fourth of a final

series of sales aimed at reducing British gold reserves. The auction was followed by a modest and brief rally toward \$276 per ounce (American Metal Market, 2001b).

GoldAvenue launched its business-to-business Web site, GAExchange, on an international basis. The electronic platform, which enables gold market professionals to purchase a range of gold products, has been expanded to all main gold centers around the world (American Metal Market, 2001a).

The London Bullion Market Association's gold clearing statistics rose 8% during November. Gold transfers rose 8% in comparison with October, rising to 560,000 kg (18 million ounces). The number of transfers declined to 659. The quantity of gold transferred in November was 3% lower than that of November 2000 (Platts Metals Week, 2001c).

Silver

The price of silver reached a high of \$4.65 per ounce in the middle of November 2001. The sharp price spike failed to maintain its momentum, however, as short position holders returned to the market—leading to an equally sharp decline to a low of \$4.04 per ounce on December 21. The late December price was lower than the 2001 nadir of \$4.14 per ounce on August 7, and was the lowest price for silver since October 1993 (Mining Journal, 2001).

The London Metal Exchange (LME) silver contract, the fourth one introduced in the history of the exchange, will be suspended effective at the close of business on March 1, 2002. The contract for silver was slow in getting started and was not able to attract trade away from already established centers such as the London Bullion Market Association (LBMA) and the New York Mercantile Exchange's Comex division. There were no futures or options trades on the contract in 2001 and only 23 trades in 2000. No silver is currently held in LME stocks.

Launched in May 1999, the LME approved the delivery of grains as well as ingots in a bid to attract industrial consumers. The LBMA had previously investigated the introduction of silver grains as a deliverable item but concluded that practical difficulties such as warehousing, bagging, and inspecting the metal would not make it worthwhile, considering the volumes anticipated (Metal Bulletin, 2002).

Platinum-Group Metals (PGM)

Stillwater Mining Company, Columbus, MT, reported that, during the fourth quarter of 2001, the company produced a record 4,170 kg of palladium and platinum compared with 3,790 kg in the fourth quarter of 2000. The 2001 figure does not include 404 kg of palladium and platinum recovered from construction and development activities at the East Boulder Mine. Total cash costs for the fourth quarter of 2001 were \$267 per ounce compared with \$264 per ounce for the same period in 2000. The increase in total cash costs was due to a \$35 per ounce increase in operating costs. Operating costs were driven by increased manpower levels and an increase in stope mining activities. Higher operating costs were offset by a decrease of \$32 per ounce in royalties and taxes owing to lower metal prices in the fourth quarter.

In 2001, Stillwater produced a record 15,700 kg of palladium and platinum, which does not include 684 kg recovered from construction and development activities at East Boulder, compared with 13,400 kg in 2000. Total cash costs per ounce for 2001 were comparable to costs for 2000. For 2002, Stillwater expects the Stillwater Mine to produce 18,400 kg of palladium and platinum from mining ore at an average rate of 2,400 metric tons of ore per day.

Proven and probable reserves at the Stillwater Mine total 21.6 million metric tons (Mt) at a grade of 21 grams per ton (g/t) of PGM, containing 497,000 kg of palladium and platinum at a 3.3 to 1 ratio. Proven and probable reserves at the East Boulder Mine increased to 19.7 Mt at a grade of 16.5 g/t of PGM, containing 361,000 kg of palladium and platinum at a ratio of 3.7 to 1 (Stillwater Mining Company, 2002).

Palladium-coated iron nanoparticles 100 to 200 nanometers

in diameter have demonstrated in a field test to be potentially useful for reducing chlorinated hydrocarbons to nontoxic hydrocarbons in contaminated groundwater plumes. Generally, colloidal or particulate additives, such as microscale iron particles, have low mobility in aquifers and don't perform optimally. To reduce the mobility problem, researchers determined the optimum particle size. The Fe-Pd couple creates numerous galvanic cells that allow iron to become oxidized more rapidly. The palladium remains unchanged, but may promote dechlorination by catalytic hydrogenation. In a field test, a nanoparticle suspension was fed into a small test area lying within a larger area contaminated with trichloroethene (TCE). Samples from monitoring wells showed that up to 96% of TCE in the migrating groundwater—about 500 micrograms per liter—can be reduced, mostly to ethane. The ability to use nanoparticles in contaminated "hot spots" and slurry reactors, or when anchored to activated carbon, makes them amenable to many applications (Elliot and Zhang, 2001).

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- 2001b, Nevada gold mine to produce 82,000 ounces: Platts Metals Week, v. 72, no. 51, December 24, p. 15.
- 2001c, November gold transfers up 8%: Platts Metals Week, v. 72, no. 50, December 17, p. 10.
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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
2000:					
December	1,440	1,190	25,000	4,520	32,200
January-December	15,000	16,700	255,000 r/	65,500 r/	352,000 r/
2001:					
January	1,390	1,370	21,800	4,500	29,000
February	1,280	1,090	19,700	4,320	26,400
March	1,390	1,320	20,500	3,640	26,800
April	1,240	1,180	20,300	4,280	27,000
May	1,290	857	20,700	4,620	27,500
June	1,240	1,270	22,200	4,720	29,400
July	W	1,070	22,700	5,840	29,600
August	1,370	784	21,100	3,700	27,000
September	W	699	20,200	5,380 r/	26,300 r/
October	W	746	18,000	8,250 r/	27,000 r/
November	W	793	17,800	5,090 r/	23,700 r/
December	W	871	19,400	4,890	25,200
January-December p/	9,190	12,000	244,000	59,200	325,000
Silver	Arizona	Idaho	Nevada	Other States 3/	Total
2000:					
December	W	34,500	61,200	73,000	169,000
January-December	W	248,000	717,000 r/	816,000 r/	1,780,000
2001:					
January	W	20,300	40,900	76,100	137,000
February	W	20,300	42,400	66,000	129,000
March	W	W	46,000	83,500	129,000
April	W	W	37,000	106,000	143,000
May	W	W	50,900	94,700	146,000
June	W	W	60,400	92,400	153,000
July	W	W	43,700	87,600	131,000
August	W	W	49,300	87,500	137,000
September	W	W	48,200	72,400 r/	121,000 r/
October	W	W	36,500	79,200	116,000
November	W	W	45,200	74,400 r/	120,000 r/
December	W	W	54,400	89,100	144,000
January-December p/	W	40,600	555,000	1,010,000	1,600,000

p/ Preliminary. r/ Revised. NA Not available. 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
<u>Engelhard Industries:</u>				
<u>2000:</u>				
Low/date	264.90 October 27	4.59 December 19	416.00 January 6	437.00 January 6
High/date	313.88 February 7	5.53 February 7	625.00 December 13 and 28	985.00 December 27
Average	280.10	5.00	549.31	691.84
<u>2001:</u>				
<u>October:</u>				
Low/date	276.62/24	4.22/22	421.00/2	322.00/22, 24, and 25
High/date	293.00/8	4.69/5	465.00/15	368.00/15
Average	284.19	4.42	435.91	340.52
<u>November:</u>				
Low/date	273.71/26	4.05/26	419.00/7	319.00/13
High/date	281.73/1	4.24/1	448.00/30	352.00/30
Average	277.61	4.13	432.70	333.05
<u>December:</u>				
Low/date	273.31/11	4.18/5	456.00/3 and 5	361.00/3
High/date	280.12/26	4.60/31	483.00/28 and 31	446.00/31
Average	277.19	4.37	466.05	405.63
<u>Year to date:</u>				
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
<u>Handy and Harman:</u>				
2000	278.96	5.00	XX	XX
<u>2001:</u>				
October	283.06	4.42	XX	XX
November	276.49	4.12	XX	XX
December	275.98	4.37	XX	XX
Average year to date	271.06	4.39	XX	XX
<u>London Final: 1/</u>				
2000	279.04	4.95	XX	XX
<u>2001:</u>				
October	283.06	4.40	XX	XX
November	276.16	4.12	XX	XX
December	275.85	4.35	XX	XX
Average year to date	270.99	4.37	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:								
2000	65	39,000	184,000	60	223,000	29,800	6,720	7,970
2001:								
September	--	1,900	13,600	15	15,500	2,110	1,140	72
October	1,220	7,720	14,200	14	23,100	4,200	621	113
November:								
Brazil	--	--	1,460	--	1,460	--	--	28
Canada	--	--	9,880	--	9,880	191	782	--
Chile	--	208	800	--	1,010	--	--	--
Colombia	--	183	190	--	373	--	--	--
Costa Rica	--	--	--	--	--	119	--	--
Dominican Republic	--	--	3	--	3	830	--	--
Honduras	--	620	--	--	620	--	--	--
Mexico	--	63	189	(5/) 6/	252	267	--	--
Nicaragua	--	183	--	--	183	--	--	--
Peru	--	550	14	--	564	--	--	--
Switzerland	--	--	143	--	143	--	--	--
Zaire	--	141	1	--	142	--	--	--
Other	--	25	86	--	111	152	27	57 6/
Total	--	1,970	12,800	(5/)	14,700	1,560	809	85
Year to date	1,240	25,800	152,000	193	179,000	23,500	8,770	1,690
Exports:								
2000	745	106,000	440,000	--	547,000	64,100	1,130	1,390,000
2001:								
September	4	5,600	5,240	--	10,800	2,840	416	15,600
October	80	15,000	1,960	--	17,100	1,660	844	9,370
November:								
Canada	--	134	22	--	156	2,100 6/	1	1,680 6/
Colombia	--	--	--	--	--	--	--	526 6/
Dominican Republic	26	--	1	--	27	--	--	91 6/
Germany	64	3	773	--	839	48 6/	--	--
Israel	--	--	1	--	1	--	--	7,440 6/
Korea, Republic of	--	--	1,180	--	1,180	--	--	--
Mexico	--	--	391	--	391	--	1,560	680 6/
Netherlands	--	--	--	--	--	--	--	274 6/
Peru	--	--	533	--	533	--	442	--
Switzerland	--	9,340	207	--	9,550	--	275	--
Trinidad and Tobago	2	--	--	--	2	--	--	--
United Kingdom	--	1,400	7,000	--	8,400	486	20	7 6/
Other	--	15 6/	177	--	192	172 6/	--	67 6/
Total	92	10,900	10,300	--	21,300	2,810	2,300	10,800
Year to date	361	93,400	372,000	--	466,000	37,700	9,140	490,000

-- 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/ Less than 1/2 unit.

6/ 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/ 4/ (gross weight)	Waste and scrap (gross weight)
2000	3,810,000	73,900	1,420	55,800	3,940,000	204,000	235,000	24,200	140,000	1,130,000
2001:										
September	217,000	10,700	16	3,830	231,000	8,960	611	177	7,890	294,000
October	287,000	9,040	1,150	4,970	302,000	14,300	1,100	111	13,400	46,800
November:										
Australia	--	--	--	479	479	--	--	--	--	240
Brazil	--	--	--	--	--	--	--	--	4,630	215
Canada	171,000 5/	2,450 5/	--	408	174,000	191	104	--	881	36,800
Chile	14,500	15,600	--	--	30,100	--	--	--	--	--
Dominican Republic	--	--	--	--	--	--	--	--	--	567
France	--	--	--	--	--	--	382	--	21	23,300
Germany	--	--	--	--	--	--	--	153	1,040	3,770
Italy	--	--	--	--	--	14 5/	--	--	154	--
Japan	--	--	--	--	--	--	306	60 5/	121	--
Korea, Republic of	--	--	--	--	--	--	69	--	643	107
Mexico	97,800	--	--	776	98,600	10,800	--	--	3	3,330
Morocco	--	--	--	--	--	--	--	--	--	12,200
Panama	97	--	--	--	97	--	--	--	--	7
Peru	18,100	--	--	--	18,100	--	--	--	--	--
Philippines	--	--	--	--	--	--	--	--	--	1,540
Poland	--	--	--	--	--	--	--	--	105	--
Portugal	--	--	--	--	--	--	--	--	--	5,700
Russia	20,000	--	--	--	20,000	--	--	--	--	--
Singapore	--	--	--	--	--	--	--	--	--	242
Sweden	--	--	--	--	--	--	--	--	--	192
United Kingdom	--	--	--	--	--	--	12	--	54	1,260
Other	--	29	--	--	29	28 5/	36	--	20	68
Total	322,000	18,100	--	1,660	341,000	11,000	910	213	7,680	89,600
Year to date	2,700,000	139,000	6,110	36,200	2,880,000	233,000	22,900	26,000	143,000	1,070,000

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

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

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)
2000	279,000	36,000	65,100	380,000	57,500	424,000	217,000	148,000	1,670,000
2001:									
September	38,800	838	38,100	77,700	4,510	13,400	4,170	21,600	143,000
October	20,300	2,850	724	23,900	2,550	9,560	3,560	14,800	164,000
November:									
Australia	--	--	--	--	--	--	160	--	--
Austria	--	--	--	--	--	93	--	--	--
Belgium	--	--	--	--	--	20	--	--	13,600
Canada	13,300	--	--	13,300	120	977	4,350	7,390	64,700
China	--	--	--	--	--	--	--	--	8,230
Colombia	--	--	--	--	--	261	--	--	--
Costa Rica	--	--	--	--	--	--	--	--	133
Dominican Republic	--	--	--	--	245	--	--	--	--
Finland	--	--	--	--	--	165	--	--	--
France	--	--	--	--	--	1,200	--	297 4/	--
Germany	--	--	--	--	--	2,020	--	57 4/	21,200
Hong Kong	28	--	--	28	52 4/	325	--	--	--
Ireland	--	--	--	--	--	--	--	145	--
Italy	--	--	--	--	--	--	--	240	17,600
Japan	--	--	--	--	--	1,220	--	2,210	2,240
Korea, Republic of	--	--	--	--	2,200	1,790	--	268	--
Kuwait	--	--	--	--	--	--	72	--	--
Mexico	45	--	53,700 4/	53,700	--	505	257	1,740 4/	--
Netherlands	--	--	--	--	--	126	--	644	21
Saudi Arabia	--	--	--	--	--	--	23	--	8,310
Singapore	--	--	--	--	--	134	--	--	--
Spain	--	--	--	--	--	--	--	1,630	--
Sweden	--	--	--	--	--	1,840	--	--	--
Switzerland	--	1,890	--	1,890	--	32 4/	--	5 4/	--
Taiwan	--	--	--	--	522	1,570	--	241	--
Trinidad and Tobago	--	--	157	157	--	--	--	25	--
United Kingdom	18,900	338	28	19,200	--	245 4/	112	247 4/	49,700
Other	30	--	--	30	55 4/	--	--	39 4/	22
Total	32,200	2,220	53,900	88,300	3,190	12,500	4,970	15,200	186,000
Year to date	396,000	15,500	239,000	651,000	45,300	181,000	140,000	189,000	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/
2000	2,550	68,000	3,870	7,480	12,100	27	154,000	27,900	2,700	133	20,800	18,200
2001:												
September	91	6,420	137	402	413	6	6,610	320	160	--	1,390	590
October	35	6,160	208	420	360	--	8,670	1,920	104	30	876	1,300
November:												
Australia	--	--	--	--	2	4	--	--	--	--	--	--
Belgium	--	584 4/	--	--	--	--	1,590 4/	--	--	--	--	141 4/
Brazil	--	--	--	--	103	--	--	--	--	--	--	--
Canada	--	--	--	71	18	(5/)	439	--	--	--	--	--
Chile	--	--	--	--	10	--	--	--	--	--	--	--
Colombia	--	--	17	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	(5/)	--	--	--	--	--	--	--	--	--
France	--	--	--	--	--	--	--	(5/)	4/	--	--	--
Germany	32	365	31	216	14	--	208	108	28	--	156	8
Hong Kong	--	--	--	--	(5/)	--	--	--	--	--	--	--
Israel	--	--	63	--	--	--	--	--	--	--	--	--
Italy	--	90	--	--	--	--	1	49	--	--	--	(5/)
Japan	--	187	--	423	--	--	361	24	--	--	--	19
Korea, Republic of	--	--	--	--	(5/)	--	--	--	--	--	--	--
Malaysia	--	--	--	--	(5/)	--	--	--	--	--	--	--
Mexico	--	--	--	--	13	--	--	--	--	--	--	--
Netherlands	--	--	--	(5/)	--	--	--	1	--	--	--	--
Norway	--	62	--	--	--	--	140	--	--	--	--	--
Russia	--	98	--	--	--	--	635	47	--	--	--	967
Singapore	--	--	--	--	--	--	--	--	1	--	1	--
South Africa	--	--	--	--	--	--	2,570	304	28	--	839	426 4/
Sweden	25	4,190	--	17	--	--	--	--	--	--	--	--
Switzerland	--	--	7	22	--	--	6	12	--	--	--	--
United Kingdom	--	733	1	79	40	--	48	--	152	--	50	21 4/
Total	57	6,310	119	828	203	4	6,000	545	209	--	1,050	1,580
Year to date	2,390	65,500	3,500	5,010	3,680	52	140,000	13,100	3,000	72	7,610	11,800

-- 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/
2000	57,900	25,000	7,360	1,480	797
2001:					
September	1,360	1,110	586	182	27
October	2,160	3,940	843	88	19
November:					
Australia	23 4/	7	--	--	--
Belgium	14	1	--	--	--
Brazil	--	4 4/	--	--	--
Canada	660	139 4/	45	3	--
China	60	--	(5/)	--	--
Denmark	--	2 4/	--	--	--
Finland	2	1	--	--	--
France	29 4/	27	--	--	--
Germany	179 4/	354	105	1	4
Haiti	4 4/	--	--	--	--
Hong Kong	--	5	--	--	1 4/
India	--	--	--	--	(5/) 4/
Ireland	166 4/	15	--	--	--
Italy	342	12 4/	--	--	--
Japan	17 4/	144	59	9	--
Korea, Republic of	19	281	--	1 4/	--
Malaysia	--	8	--	--	--
Mexico	4	5 4/	--	--	(5/) 4/
Netherlands	12	14 4/	--	--	--
New Zealand	6	--	--	--	--
Norway	10 4/	1	--	--	--
Philippines	2	--	--	--	--
Poland	--	2 4/	--	--	--
Romania	--	1	--	--	--
Saudi Arabia	--	2	--	--	--
Singapore	85 4/	3 4/	--	--	(5/) 4/
South Africa	4 4/	1	--	--	--
Spain	18	9 4/	--	--	--
Sweden	--	(5/)	--	--	--
Switzerland	--	3	--	--	--
Taiwan	174 4/	12	--	--	--
Thailand	3	4	--	--	(5/) 4/
Turkey	1 4/	--	--	--	--
United Arab Emirates	2 4/	--	--	--	(5/) 4/
United Kingdom	199	213	209	19	(5/) 4/
Total	2,030	1,270	418	33	5
Year to date	35,300	28,200	12,400	1,280	956

-- 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.

TABLE 8
LEADING GOLD-PRODUCING MINES IN THE UNITED STATES FOR THE FIRST NINE MONTHS IN 2001, IN ORDER OF OUTPUT 1/

Rank	Mine	County and State	Operator	Kilograms
1	Newmont Nevada operations 2/ 3/	Various counties, NV	Newmont Gold Company	61,800
2	Betze-Post /Goldstrike	Eureka, NV	Barrick Gold Corporation	36,800
3	Cortez	Lander, NV	Placer Dome Inc.	27,800
4	Round Mountain	Nye, NV	Round Mountain Gold Corporation	18,700
5	Meikle/Goldstrike	Elko, NV	Barrick Gold Corporation	17,300
6	Bingham Canyon 4/	Salt Lake, UT	Kennecott Utah Copper Corp.	14,700
7	Fort Knox 5/	Fairbanks, AK	Fairbanks Gold Mining Inc.	9,500
8	Jerritt Canyon	Elko, NV	Independence Mining Company, Inc.	9,200
9	Cresson	Teller, CO	Cripple Creek & Victor Gold Mining Co.	5,300
10	Golden Sunlight	Jefferson, MT	Placer Dome Inc.	5,000
11	Homestake	Lawrence, SD	Homestake Mining Company	4,600
12	Barney's Canyon	Salt Lake, UT	Kennecott Barney's Canyon Mining Co.	3,100
13	Ruby Hill	Eureka, NV	Homestake Mining Company	3,100
14	McLaughlin	Napa, Yolo, CA	Homestake Mining Company	2,700
15	Bald Mountain	White Pine, NV	Placer Dome Inc.	2,600
16	Mesquite 3/	Imperial, CA	Newmont Gold Company	2,500
17	Wharf	Lawrence, SD	Wharf Resources, Ltd.	2,500
18	Denton-Rawhide	Mineral, NV	Kennecott Rawhide Mining Co.	2,500
19	Briggs	Inyo, CA	Canyon Resources Corp.	2,400
20	McCoy/Cove	Lander, NV	Echo Bay Mines Limited	2,300
21	Marigold	Humboldt, NV	Glamis Gold Ltd.	2,100
22	Greens Creek	Juneau	Kennecott Greens Creek Mining Co.	2,000
23	Castle Mountain	San Bernardino, CA	Viceroy Resource Corporation	1,900
24	Rochester	Pershing, NV	Coeur d'Alene Mines Corp.	1,800
25	Kettle River	Ferry, WA	Echo Bay Mines Limited	1,300
26	Rand	Kern, CA	Glamis Rand Mining Co.	1,200
XX	Diamond Hill	Broadwater, MT	Diamond Hill Mining Co.	(6/)
XX	Florida Canyon	Lander, NV	Florida Canyon Mining, Inc.	(6/)
XX	Ken Snyder	Elko, NV	Euro-Nevada Mining Co.	(6/)
XX	Montana Tunnels	Jefferson, MT	Montana Tunnels Mining, Inc.	(6/)

XX Not applicable.

1/ Data are rounded to no more than three significant digits; these mines accounted for more than 99% of the U.S. gold production in the first half of 2001.

2/ Includes Carlin Mines Complex, Lone Tree, and Twin Creeks.

3/ Mill output.

4/ Mine production refers to total quantity of gold produced in concentrates.

5/ Mine production refers to gold equivalent produced.

6/ Production at Diamond Hill, Florida Canyon, Ken Snyder, and Montana Tunnels are withheld; mines are among the top 30 gold-producing mines in the United States, but are not shown in rank in order to avoid disclosing company proprietary data.

Sources: Company annual reports, Security Exchange Commission's 10Q reports, and company news releases.