



2005 Minerals Yearbook

STATISTICAL SUMMARY

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This annual report summarizes data on crude nonfuel mineral production¹ for the United States, its island possessions, and the Commonwealth of Puerto Rico.

Although crude mineral production may be measured at any of several stages of extraction and processing, the stage of measurement used in this annual report is what is termed “mine output.” This term refers to minerals or ores in the form in which they are first extracted from the ground, but customarily may include the output from auxiliary processing at or near the mines.

Because of inadequacies in the statistics available, some series deviate from the foregoing definition. For copper, gold,

¹The terms “nonfuel mineral production” and related “values” encompass variations in meaning, depending upon the mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 2005 U.S. Geological Survey (USGS) mineral production data published in this chapter are as of March 2007. For some mineral commodities, such as construction sand and gravel, crushed stone, and portland cement, estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. Specialist contact information are available on the Internet at <http://minerals.usgs.gov/minerals/contacts/comdir.html>; alternatively, specialists' names and telephone numbers may be obtained by calling USGS information at (703) 648-4000 or by calling the USGS Earth Science Information Center at 1-888-ASK-USGS (275-8747). All Mineral Industry Surveys—mineral commodity, State, and country—are also available on the Internet at <http://minerals.usgs.gov/minerals>.

lead, silver, and zinc, the quantities listed are recorded on a mine basis (as the recoverable content of ore sold or treated). The values assigned to the quantities, however, are based on the average selling price of refined metal, not the mine value.

The total value of all nonfuel mineral production in the United States in 2005 increased to \$55.2 billion, which was an increase of almost 22% compared with that of 2004; metals increased to \$16.5 billion, which was an increase of more than 32%; and industrial minerals increased to \$38.7 billion, more than 17%.

In 2005, the value of nonfuel mineral commodity production for the following 11 commodities, in descending order of production value, was greater than \$1 billion: stone (crushed), cement (portland), sand and gravel (construction), copper, gold, molybdenum concentrates, iron ore (usable shipped), lime, salt, phosphate rock, and zinc. They accounted for more than 85% of the U.S. total production value (table 1).

In 2005, the value of nonfuel mineral commodity production in the following 20 States, in descending order of production value, was greater than \$1 billion: Arizona, California, Nevada, Florida, Utah, Texas, Minnesota, Missouri, Georgia, Colorado, Michigan, Pennsylvania, Alaska, Wyoming, New York, Illinois, Ohio, Virginia, New Mexico, and Alabama. They accounted for more than 75% of the U.S. total production value (table 3).

TABLE 1
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005		
	Quantity	Value	Quantity	Value	Quantity	Value	
Metals:							
Beryllium concentrates	metric tons	2,100	NA	2,210	NA	2,780	NA
Copper ³		1,120	2,100,000	1,160	3,420,000	1,140	4,360,000
Gold ³	kilograms	277,000	3,250,000	258,000	3,400,000	256,000	3,670,000
Iron ore, usable shipped		46,100	1,490,000	54,900	2,080,000	53,200	2,370,000
Iron oxide pigments, crude	metric tons	50,900	814	(4)	W	(4)	795
Lead ³	do.	449,000	433,000	430,000	523,000	426,000	574,000
Molybdenum concentrates ^{5,6}	do.	33,600	324,000	42,000	1,420,000	58,000	3,660,000
Palladium ⁵	kilograms	14,000	91,400	13,700	102,000	13,300	87,100
Platinum ⁵	do.	4,170	93,100	4,040	110,000	3,920	113,000
Silver ³	do.	1,240,000	196,000	1,250,000	268,000	1,230,000	289,000
Zinc ³	metric tons	738,000	661,000	715,000	827,000	720,000	1,070,000
Combined value of cadmium byproduct in zinc concentrates, magnesium metal, titanium concentrates, zirconium concentrates, and value indicated by symbol W		XX	233,000	XX	304,000	XX	316,000
Total		XX	8,870,000	XX	12,500,000	XX	16,500,000
Industrial minerals, excluding fuels:							
Barite		468	13,900	532	18,700	489	17,600
Boron		1,150	591,000	1,210	626,000	1,150	713,000
Bromine	metric tons	216,000	155,000	222,000	191,000	226,000	168,000
Cement:							
Masonry		4,740	468,000 ^c	5,000	585,000 ^c	5,420	679,000 ^c
Portland		88,100	6,460,000 ^c	92,400	7,110,000 ^c	93,900	8,360,000 ^c
Clays:							
Ball		1,310	56,200	1,220	54,100	1,210	52,900
Bentonite		3,940	177,000	4,060	179,000	4,710	215,000
Common		23,100	131,000	24,600	157,000	24,300	176,000
Fire		400	10,200	256	7,870	353	10,700
Fuller's earth ⁷		3,610	332,000	3,260	329,000	2,990	339,000
Kaolin		7,680	939,000	7,760	945,000	7,800	860,000
Diatomite		599	159,000	620	177,000	653	179,000
Feldspar		800	43,400	770	44,200	750	43,000
Garnet, industrial	metric tons	29,200	3,170	28,400	3,050	440,000	3,840
Gemstones, natural		NA	12,500	NA	14,500	NA	13,400
Gypsum, crude		16,700	114,000	17,200	124,000	21,100	158,000
Helium:							
Crude	million cubic meters	49	67,000	57	77,500	42	63,300
Grade-A	do.	122	282,000	130	299,000	133	336,000
Iodine	metric tons	1,090	15,900	1,130	W	1,570	W
Kyanite ^c		90	13,400	90	13,400	90	13,400
Lime		(4)	W	20,000	1,370,000	20,000	1,500,000
Mica, crude		79	16,700	99,200	15,400	78,100	19,600
Peat ⁸		632	18,800	741 ^r	21,200	751	20,800
Perlite, crude	metric tons	493,000	18,800	508,000	20,600	508,000	20,700
Phosphate rock, marketable		35,000	946,000	35,800	995,000	36,100	1,070,000
Potash		2,500	280,000	2,700	340,000	2,500	410,000
Pumice and pumicite	metric tons	870,000	21,900	1,490,000	25,000	1,270,000	39,300
Salt		41,100	1,130,000	45,000	1,270,000	45,000	1,310,000
Sand and gravel:							
Construction		1,160,000	5,990,000	1,240,000	6,590,000	1,270,000	7,460,000
Industrial		27,500	609,000	29,700	685,000	30,600	752,000
Silica stone ⁹	metric tons	513	3,630	655	3,660	576	2,290
Soda ash		10,600	765,000	11,000	770,000	11,000	968,000
Stone, crushed ¹⁰		1,530,000	9,060,000	1,440,000 ^r	9,320,000 ^r	1,690,000	12,100,000
Tripoli	metric tons	68,800	17,700	94,000	19,400	91,100	18,700
Zeolites	do.	(4)	NA	(4)	W	(4)	W

See footnotes at end of table.

TABLE 1—Continued
 NONFUEL MINERAL PRODUCTION IN THE UNITED STATES^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>Industrial minerals, excluding fuels—Continued:</u>						
Combined value of brucite, greensand marl, lithium carbonate, magnesite, magnesium compounds, olivine, pyrophyllite (crude), staurolite, stone (dimension), talc (crude), vermiculite (crude), wollastonite, and values indicated by symbol W	XX	1,800,000	XX	531,000	XX	555,000
Total	XX	30,700,000	XX	32,900,000 ^r	XX	38,700,000
Grand total	XX	39,600,000	XX	45,400,000 ^r	XX	55,200,000

^cEstimated. ^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value." XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers)

²Data are rounded to three significant digits; may not add to totals shown.

³Recoverable content of ores, etc.

⁴Withheld to avoid disclosing company proprietary data.

⁵Content of ore and concentrate.

⁶Shipments.

⁷Sales.

⁸Excludes attapulgite.

⁹Includes grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

¹⁰Excludes abrasive stone and bituminous limestone and sandstone; all included elsewhere in table.

TABLE 2
NONFUEL MINERALS PRODUCED IN THE UNITED STATES, BY COMMODITY AND STATES IN 2005

(Principal States based on quantity unless otherwise noted)

Mineral	Principal States	Other States (alphabetical order)
Barite	NV and GA	
Beryllium concentrates	UT	
Boron	CA	
Bromine	AR and MI	
Brucite	TX	
Cadmium byproduct in zinc concentrates	AK, WA, MO, MT, ID	
Cement:		
Masonry	FL, CA, SC, AL, IN	AR, AZ, CO, GA, IA, KS, KY, MD, MI, MO, MT, NE, NM, NY, OH, OK, PA, TN, TX, VA, WV.
Portland	CA, TX, PA, FL, MI	All other States, except AK, CT, DE, HI, LA, MA, MN, NH, NJ, NC, ND, RI, VT.
Clays:		
Ball	TN, TX, MS, KY, IN	
Bentonite	WY, MS, MT, AL, UT	AZ, CA, CO, NV, OR, TX, VA.
Common	TX, AL, NC, GA, OH	All other States, except AK, DE, HI, ID, NV, NH, RI, VT, WI.
Fire	MO, OH, SC	
Fuller's earth	GA, MO, MS, VA, FL	CA, IL, KS, NV, TN, TX.
Kaolin	GA, SC, AL, AR, CA	FL, NV, NC, TN, TX.
Copper ¹	AZ, UT, NM, NV, MT	ID and MO.
Diatomite	CA, NV, OR, WA	
Feldspar	NC, VA, CA, OK, GA	ID and SD.
Garnet, industrial	NY, ID, MT	
Gemstones, natural ²	TN, AZ, OR, CA, AR	All other States.
Gold ¹	NV, UT, AK, CO, MT	AZ, CA, ID, MT, NM, SD, WA.
Greensand marl	NJ	
Gypsum, crude	OK, IA, NV, NY, CA	AR, AZ, CO, IN, KS, LA, MI, NM, SD, TX, UT, WY.
Helium:		
Crude	KS and TX	
Grade-A	KS, WY, OK, CO, UT	TX.
Iodine, crude	OK	
Iron ore, usable	MN, MI, CA	
Iron oxide pigments, crude	GA, MI, AL, VA	
Kyanite	VA	
Lead ¹	MO, AK, ID, WA, MT	
Lime	MO, KY, AL, OH, TX	All other States, except AK, CT, DE, HI, KS, ME, MD, MS, NH, NJ, NY, NC, RI, SC, VT.
Lithium carbonate	NV	
Magnesite	NV	
Magnesium compounds	MI, UT, FL, DE, CA	
Magnesium metal	UT	
Mica, crude	NC, AL, SD, SC, GA	
Molybdenum, concentrates	UT, CO, AZ, ID, MT	NM.
Olivine	WA and NC	
Palladium ¹	MT	
Peat	FL, MI, MN, IL, IN	IA, ME, MT, NJ, NY, OH, PA, WA, WV, WI.
Perlite, crude	NM, OR, AZ, UT, CA	ID and NV.
Phosphate rock	FL, NC, ID, UT	
Platinum ¹	MT	
Potash	NM, UT, MI	
Pumice and pumicite	AZ, OR, CA, NM, ID	KS.
Pyrophyllite, crude	NC	
Salt	LA, TX, NY, OH, KS	AL, AZ, CA, MI, NV, NM, OK, TN, UT, WV.
Sand and gravel:		
Construction	CA, AZ, TX, MI, MN	All other States.
Industrial	IL, TX, WI, CA, NJ	All other States, except AK, CT, DE, HI, KY, ME, MA, MT, NE, NH, NY, OR, SD, UT, VT, WY.
Silica stone ³	AR	
Silver ¹	AK, NV, ID, UT, MT	AZ, CA, CO, MO, NM, WA.
Soda ash	WY and CA	
Staurolite	FL	

See footnotes at end of table.

TABLE 2—Continued
NONFUEL MINERALS PRODUCED IN THE UNITED STATES, BY COMMODITY AND STATES IN 2005

(Principal States based upon quantity unless otherwise noted)

Mineral	Principal States	Other States (alphabetical order)
Stone:		
Crushed	TX, FL, PA, MO, VA	All other States, except DE.
Dimension	WI, GA, IN, VT, MA	All other States, except AK, DE, FL, HI, IA, KY, LA, MS, NE, NV, NJ, ND, OR, RI, WY.
Talc, crude	MT, TX, VT, NY, VA	OR.
Titanium concentrates:		
Ilmenite	FL, VA, GA	
Rutile	FL	
Tripoli	IL, OK, AR, PA	
Vermiculite, crude	SC and VA	
Wollastonite	NY	
Zeolites	NM, ID, TX, AZ, NV	CA and WY.
Zinc ¹	AK, WA, MO, MT, ID	
Zirconium concentrates	FL, VA, GA	

¹Content of ores, etc.

²Principal producing States based on value.

³Grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

TABLE 3
VALUE OF NONFUEL MINERAL PRODUCTION IN THE UNITED STATES AND PRINCIPAL NONFUEL MINERALS PRODUCED IN 2005¹

State	Value (thousands)	Rank	Percentage of U.S. total	Principal minerals, in order of value
Alabama	\$1,120,000	20	2.03	Cement (portland), stone (crushed), lime, sand and gravel (construction), cement (masonry).
Alaska	1,470,000	13	2.66	Zinc, lead, gold, silver, sand and gravel (construction).
Arizona	4,350,000	1	7.88	Copper, molybdenum concentrates, sand and gravel (construction), cement (portland), stone (crushed).
Arkansas	591,000	32	1.07	Stone (crushed), bromine, cement (portland), sand and gravel (construction), lime.
California	4,240,000	2	7.68	Sand and gravel (construction), cement (portland), boron minerals, stone (crushed), soda ash.
Colorado	1,750,000	10	3.17	Molybdenum concentrates, sand and gravel (construction), cement (portland), gold, stone (crushed).
Connecticut ²	157,000	42	0.28	Stone (crushed), sand and gravel (construction), stone (dimension), clays (common), gemstones (natural).
Delaware ²	20,000	50	0.04	Sand and gravel (construction), magnesium compounds, stone (crushed), gemstones (natural).
Florida	2,890,000	4	5.24	Stone (crushed), phosphate rock, cement (portland), sand and gravel (construction), cement (masonry).
Georgia	1,810,000	9	3.28	Clays (kaolin), stone (crushed), clays (fuller's earth), sand and gravel (construction), cement (portland).
Hawaii	100,000	45	0.18	Stone (crushed), sand and gravel (construction), gemstones (natural).
Idaho	906,000	21	1.64	Molybdenum (concentrates), phosphate rock, sand and gravel (construction), silver, cement (portland).
Illinois	1,210,000	16	2.19	Stone (crushed), cement (portland), sand and gravel (construction), sand and gravel (industrial), clays (fuller's earth).
Indiana	883,000	22	1.60	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Iowa	641,000	29	1.16	Cement (portland), stone (crushed), sand and gravel (construction), gypsum (crude), lime.
Kansas	870,000	23	1.58	Cement (portland), helium (Grade-A), stone (crushed), salt, helium (crude).
Kentucky	765,000	27	1.39	Stone (crushed), lime, cement (portland), sand and gravel (construction), stone (crushed).
Louisiana	393,000	36	0.71	Salt, sand and gravel (construction), stone (crushed), clays (common), sand and gravel (industrial).
Maine	141,000	43	0.26	Sand and gravel (construction), cement (portland), stone (crushed), stone (dimension), peat.
Maryland ²	577,000	33	1.05	Stone (crushed), cement (portland), sand and gravel (construction), cement (masonry), stone (dimension).
Massachusetts ²	250,000	38	0.45	Stone (crushed), sand and gravel (construction), lime, stone (dimension), clays (common).
Michigan	1,750,000	11	3.17	Iron ore (usable shipped), cement (portland), sand and gravel (construction), stone (crushed), salt.
Minnesota ²	2,190,000	7	3.97	Iron ore (usable shipped), sand and gravel (construction), stone (crushed), sand and gravel (industrial), stone (dimension).
Mississippi	215,000	40	0.39	Sand and gravel (construction), stone (crushed), cement (portland), clays (fuller's earth), clays (bentonite).
Missouri	1,940,000	8	3.51	Stone (crushed), cement (portland), lead, lime, sand and gravel (construction).
Montana	847,000	24	1.53	Molybdenum (concentrates), copper, platinum metal, palladium metal, sand and gravel (construction).
Nebraska ²	110,000	44	0.20	Cement (portland), sand and gravel (construction), stone (crushed), lime, clays (common).
Nevada	3,880,000	3	7.03	Gold, sand and gravel (construction), copper, lime, stone (crushed).
New Hampshire ²	88,200	47	0.16	Sand and gravel (construction), stone (crushed), stone (dimension), gemstones (natural).

See footnotes at end of table.

TABLE 3—Continued

VALUE OF NONFUEL MINERAL PRODUCTION IN THE UNITED STATES AND PRINCIPAL NONFUEL MINERALS PRODUCED IN 2005¹

State	Value (thousands)	Rank	Percentage of U.S. total	Principal minerals, in order of value
New Jersey ²	344,000	37	0.62	Stone (crushed), sand and gravel (construction), sand and gravel (industrial), greensand marl, peat.
New Mexico	1,150,000	19	2.08	Copper, potash, molybdenum (concentrates), sand and gravel (construction), cement (portland).
New York	1,290,000	15	2.34	Stone (crushed), salt, cement (portland), sand and gravel (construction), wollastonite.
North Carolina ²	792,000	25	1.43	Stone (crushed), phosphate rock, sand and gravel (construction), sand and gravel (industrial), feldspar.
North Dakota	45,600	48	0.08	Sand and gravel (construction), lime, stone (crushed), clays (common), sand and gravel (industrial).
Ohio	1,210,000	17	2.19	Stone (crushed), sand and gravel (construction), salt, lime, cement (portland).
Oklahoma	606,000	31	1.10	Stone (crushed), cement (portland), sand and gravel (construction), sand and gravel (industrial), iodine (crude).
Oregon	432,000	35	0.78	Stone (crushed), sand and gravel (construction), cement (portland), diatomite, lime.
Pennsylvania ²	1,550,000	12	2.81	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Rhode Island ²	35,400	49	0.06	Sand and gravel (construction), stone (crushed), sand and gravel (industrial), gemstones (natural).
South Carolina	659,000	28	1.19	Stone (crushed), cement (portland), cement (masonry), sand and gravel (construction), sand and gravel (industrial).
South Dakota	215,000	39	0.39	Cement (portland), sand and gravel (construction), stone (crushed), gold, stone (dimension).
Tennessee	770,000	26	1.39	Stone (crushed), cement (portland), sand and gravel (construction), clays (ball), sand and gravel (industrial).
Texas	2,720,000	6	4.93	Cement (portland), stone (crushed), sand and gravel (construction), salt, sand and gravel (industrial).
Utah	2,790,000	5	5.05	Molybdenum (concentrates), copper, gold, cement (portland), sand and gravel (construction).
Vermont ²	96,800	46	0.18	Stone (crushed), sand and gravel (construction), stone (dimension), talc (crude), gemstones (natural).
Virginia	1,160,000	18	2.10	Stone (crushed), cement (portland), sand and gravel (construction), lime, zirconium (concentrates).
Washington	633,000	30	1.15	Sand and gravel (construction), stone (crushed), cement (portland), zinc, gold.
West Virginia	200,000	41	0.36	Stone (crushed), cement (portland), sand and gravel (industrial), lime, cement (masonry).
Wisconsin ²	562,000	34	1.02	Stone (crushed), sand and gravel (construction), lime, sand and gravel (industrial), stone (dimension).
Wyoming	1,300,000	14	2.36	Soda ash, clays (bentonite), helium (Grade-A), sand and gravel (construction), cement (portland).
Undistributed	431,000	XX	0.78	
Total	55,200,000	XX	100.00	

XX Not applicable.

¹Data are rounded to three significant digits; may not add to totals shown.²Partial total; excludes values that must be withheld to avoid disclosing company proprietary data which are included with "Undistributed."

TABLE 4
VALUE OF NONFUEL MINERAL PRODUCTION PER CAPITA AND PER SQUARE KILOMETER IN 2005 BY STATE¹

State	Area (square kilometers)	Population (thousands)	Total value (thousands)	Per capita		Per square kilometer	
				Dollars	Rank	Dollars	Rank
Alabama	134,000	4,560	\$1,120,000	\$246	14	\$8,390	20
Alaska	1,530,000	664	1,470,000	2,220	2	961	48
Arizona	295,000	5,940	4,350,000	732	6	14,700	4
Arkansas	138,000	2,780	591,000	213	16	4,290	30
California	411,000	36,100	4,240,000	117	30	10,300	16
Colorado	270,000	4,670	1,750,000	376	10	6,500	25
Connecticut	13,000	3,510	157,000 ²	45	46	12,100	8
Delaware	5,290	844	20,000 ²	24	50	3,780	36
Florida	152,000	17,800	2,890,000	162	21	19,000	2
Georgia	153,000	9,070	1,810,000	199	17	11,800	9
Hawaii	16,800	1,280	100,000	78	40	5,970	26
Idaho	216,000	1,430	906,000	634	7	4,190	31
Illinois	146,000	12,800	1,210,000	95	37	8,300	21
Indiana	93,700	6,270	883,000	141	25	9,420	19
Iowa	146,000	2,970	641,000	216	15	4,400	29
Kansas	213,000	2,750	870,000	317	12	4,080	32
Kentucky	105,000	4,170	765,000	183	18	7,310	23
Louisiana	124,000	4,520	393,000	87	39	3,180	42
Maine	86,200	1,320	141,000	107	32	1,630	46
Maryland	27,100	5,600	577,000 ²	103	34	21,300	1
Massachusetts	21,500	6,400	250,000 ²	39	48	11,700	10
Michigan	152,000	10,100	1,750,000	173	19	11,500	11
Minnesota	219,000	5,130	2,190,000 ²	427	9	10,000	18
Mississippi	124,000	2,920	215,000	73	41	1,740	44
Missouri	181,000	5,800	1,940,000	335	11	10,800	15
Montana	381,000	936	847,000	906	5	2,230	43
Nebraska	200,000	1,760	110,000 ²	63	45	550	49
Nevada	286,000	2,420	3,880,000	1,610	3	13,600	5
New Hampshire	24,000	1,310	88,200 ²	67	43	3,670	37
New Jersey	20,200	8,720	344,000 ²	39	47	17,000	3
New Mexico	315,000	1,930	1,150,000	596	8	3,650	38
New York	127,000	19,300	1,290,000	67	44	10,200	17
North Carolina	136,000	8,680	792,000 ²	91	38	5,810	27
North Dakota	183,000	637	45,600	72	42	249	50
Ohio	107,000	11,500	1,210,000	105	33	11,300	13
Oklahoma	181,000	3,550	606,000	171	20	3,350	40
Oregon	251,000	3,640	432,000	119	29	1,720	45
Pennsylvania	117,000	12,400	1,550,000 ²	125	27	13,200	6
Rhode Island	3,140	1,080	35,400 ²	33	49	11,300	12
South Carolina	80,600	4,260	659,000	155	23	8,180	22
South Dakota	200,000	776	215,000	277	13	1,080	47
Tennessee	109,000	5,960	770,000	129	26	7,060	24
Texas	691,000	22,900	2,720,000	119	28	3,940	33
Utah	220,000	2,470	2,790,000	1,130	4	12,700	7
Vermont	24,900	623	96,800 ²	155	22	3,890	34
Virginia	106,000	7,570	1,160,000	153	24	10,900	14
Washington	176,000	6,290	633,000	101	36	3,590	39
West Virginia	62,800	1,820	200,000	110	31	3,200	41
Wisconsin	145,000	5,540	562,000 ²	102	35	3,870	35
Wyoming	253,000	509	1,300,000	2,550	1	5,130	28
Undistributed	XX	XX	431,000	XX	XX	XX	XX
Total or average	9,370,000 ³	296,000 ³	55,200,000	186	XX	5,890	XX

XX Not applicable.

¹Data are rounded to three significant digits; may not add to totals shown.

²Partial total; excludes values that must be withheld to avoid disclosing company proprietary data. Withheld values included with "Undistributed."

³Excludes Washington, DC (which has no mineral production), with an area of 179 square kilometers and a population of 551,000.

Sources: U.S. Geological Survey and U.S. Census Bureau.

TABLE 5
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Alabama:						
Cement:						
Masonry	565	55,700 ^c	430	49,400 ^c	475	54,800 ^c
Portland	4,330	273,000 ^c	4,800	320,000 ^c	5,120	421,000 ^c
Clays:						
Bentonite	125	3,810	100	3,050	109	3,480
Common	1,920	24,000	2,120	29,600	2,280	29,000
Gemstones	NA	356	NA	356	NA	371
Lime	2,290	151,000	2,280	164,000	2,240	181,000
Sand and gravel:						
Construction	14,500	67,600	14,700	65,300	15,700	70,500
Industrial	723	9,180	643	9,800	710	11,200
Stone, crushed	49,300	286,000	47,800 ^r	296,000 ^r	49,500	325,000
Combined values of clays (kaolin), iron oxide pigments (crude), mica [crude (2004)], salt, stone (dimension marble and sandstone)						
	XX	30,000	XX	27,000	XX	27,000
Total	XX	900,000	XX	965,000 ^r	XX	1,120,000
Alaska:						
Gemstones	NA	12	NA	12	NA	12
Sand and gravel, construction	9,980	55,700	9,430	51,600	8,660	48,100
Stone, crushed	2,640 ³	15,300 ³	2,270 ^r	14,200 ^r	2,360	15,600
Combined values of cadmium [byproduct of zinc concentrates (2004-05)], gold, lead, silver, stone [crushed granite and shell (2003-04)], zinc						
	XX	1,010,000	XX	1,200,000	XX	1,410,000
Total	XX	1,080,000	XX	1,270,000	XX	1,470,000
Arizona:						
Copper ⁴	741	1,390,000	723	2,130,000	690	2,640,000
Gemstones	NA	1,440	NA	1,450	NA	1,370
Sand and gravel:						
Construction	62,600	340,000	79,600	430,000	84,900	516,000
Industrial	(5)	W	(5)	792	(5)	W
Stone, crushed	9,950	49,100	14,100 ^r	75,900 ^r	12,000 ³	69,300 ³
Combined values of cement, clays (bentonite, common), gold, gypsum (crude), lime, molybdenum concentrates, perlite (crude), pumice and pumicite, salt, silver, stone [crushed traprock (2005), dimension sandstone], zeolites (2004-05), and values indicated by symbol W						
	XX	394,000	XX	709,000	XX	1,120,000
Total	XX	2,180,000	XX	3,350,000 ^r	XX	4,350,000
Arkansas:						
Clays, common	897	1,410	1,150	1,510	1,210	1,900
Gemstones	NA	477	NA	590	NA	711
Sand and gravel, construction	9,720	52,100	9,370	53,500	10,600	62,000
Silica stone ⁶ metric tons	513	3,630	655	3,660	576	2,290
Stone, crushed	29,700	145,000	34,100 ^{r,3}	173,000 ^{r,3}	35,400 ³	223,000 ³
Combined values of bromine, cement, clays (kaolin), gypsum (crude), lime, sand and gravel (industrial), stone [crushed slate (2004-05), dimension limestone and sandstone], tripoli						
	XX	252,000	XX	299,000 ^r	XX	302,000
Total	XX	454,000	XX	531,000 ^r	XX	591,000
California:						
Boron minerals	1,150	591,000	1,210	626,000	1,150	713,000
Cement:						
Masonry	(5)	W	(5)	W	694	80,600 ^c
Portland	11,600	887,000 ^c	11,900	1,000,000 ^c	11,600	1,130,000 ^c
Clays:						
Bentonite	23	2,560	24	2,640	20	2,200
Common	1,240	19,100	1,230	20,700	1,010	16,600
Fuller's earth	(5)	W	197	W	189	W

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
California—Continued:						
Gemstones	NA	1,080	NA	1,070	NA	1,130
Gold ⁴ kilograms	4,270	50,100	3,260	43,000	(5)	W
Sand and gravel:						
Construction	152,000	1,150,000	166,000	1,280,000	163,000	1,440,000
Industrial	1,790	50,100	1,990	55,700	2,030	60,400
Silver ⁴ kilograms	957	151	801	172	269	63
Stone:						
Crushed	55,500	371,000	55,300 ^{r,3}	364,000 ^{r,3}	54,300	455,000
Dimension	40	9,920	42	10,200	41	10,200
Combined values of clays (kaolin), diatomite, feldspar, gypsum (crude), iron ore (usable shipped), lime, magnesium compounds, perlite (crude), pumice and pumicite, pyrophyllite [crude (2003)], salt, soda ash, stone [crushed shell (2004)], talc [crude (2004)], zeolites (2004), and values indicated by symbol W	XX	308,000	XX	349,000	XX	332,000
Total	XX	3,440,000	XX	3,760,000	XX	4,240,000
Colorado:						
Clays:						
Bentonite	(5)	W	5	W	3	W
Common	259	1,580	249	1,510	255	1,610
Gemstones	NA	281	NA	360	NA	358
Lime	26	2,330	26	2,570	29	3,900
Sand and gravel:						
Construction	37,500	213,000	40,900	235,000	44,700	280,000
Industrial	70	W	(5)	3,300	(5)	W
Stone:						
Crushed	10,400	64,000	11,100 ^r	68,300 ^r	13,000	89,100
Dimension	5	1,610	16	1,980	18	2,400
Combined values of cement, gold, gypsum (crude), helium (Grade-A), molybdenum concentrates, silver, soda ash (2003-04), and values indicated by symbol W	XX	391,000	XX	699,000	XX	1,380,000
Total	XX	673,000	XX	1,010,000	XX	1,750,000
Connecticut						
Clays, common	52	143	87	(6)	89	(6)
Gemstones	NA	6	NA	6	NA	6
Sand and gravel, construction	8,150	51,200	8,330	55,600	8,400	64,200
Stone:						
Crushed	10,400	81,800	10,100 ^r	75,700	10,100	92,600
Dimension	(5)	(7)	(5)	(7)	(5)	(7)
Total	XX	133,000	XX	131,000	XX	157,000
Delaware:						
Gemstones	NA	1	NA	1	NA	1
Magnesium compounds metric tons	(5)	(7)	(5)	(7)	(5)	(7)
Sand and gravel, construction	2,550	17,900	2,980	21,900	2,640	20,000
Stone, crushed	--	--	--	--	(5)	(7)
Total	XX	17,900	XX	21,900	XX	20,000
Florida:						
Cement:						
Masonry	674	82,900 ^e	763	97,600 ^e	902	129,000 ^e
Portland	4,190	323,000 ^e	5,230	432,000 ^e	5,730	519,000 ^e
Clays:						
Common	94 ^e	1,280 ^e	(5)	W	(5)	W
Fuller's earth	(5)	W	234	W	279	W
Kaolin	31	3,250	31	3,280	29	3,510
Gemstones	NA	1	NA	1	NA	1
Lime	--	--	24	2,090	23	2,940
Peat	373	7,440	478	9,710	464	9,450

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Florida—Continued:						
Sand and gravel:						
Construction	30,900	141,000	29,300	146,000	37,500	210,000
Industrial	624	7,270	679	8,520	715	9,410
Stone, crushed	97,100	587,000	105,000 ³	680,000 ^{r,3}	115,000 ³	994,000 ³
Combined values of magnesium compounds, phosphate rock, staurolite, stone [crushed sandstone (2004-05)], titanium concentrates, zirconium concentrates, and values indicated by symbol W						
	XX	918,000	XX	945,000	XX	1,010,000
Total	XX	2,070,000	XX	2,320,000	XX	2,890,000
Georgia:						
Clays:						
Common	1,280	4,430	1,550	8,710	1,530	8,730
Fuller's earth	1,570	145,000	1,400	142,000	1,410	147,000
Kaolin	6,610	884,000	6,780	898,000	7,190	825,000
Gemstones	NA	8	NA	9	NA	9
Sand and gravel:						
Construction	7,690	31,800	9,270	39,400	11,100	68,300
Industrial	590	11,900	665	13,400	689	15,000
Stone:						
Crushed	75,200	519,000	79,700 ^r	548,000 ^r	79,400	606,000
Dimension	114	22,700	146	22,100	246	21,000
Combined values of barite, cement, feldspar, iron oxide pigments (crude), lime, mica (crude)						
	XX	117,000	XX	134,000	XX	115,000
Total	XX	1,740,000	XX	1,810,000 ^r	XX	1,810,000
Hawaii:						
Cement, masonry	(5)	(7)	--	--	--	--
Gemstones	NA	119	NA	262	NA	217
Sand and gravel, construction	808	9,560	1,260	12,100	1,390	17,500
Stone, crushed	5,620	65,400	5,470 ^r	61,300 ^r	6,170	82,300
Total	XX	75,100	XX	73,700 ^r	XX	100,000
Idaho:						
Gemstones	NA	477	NA	836	NA	469
Sand and gravel, construction	16,500	59,300	19,600	74,300	20,800	93,800
Stone, crushed	3,160	15,700	3,420 ^r	18,100 ^r	4,450	23,900
Combined values of cadmium [byproduct of zinc concentrates (2004-05)], cement (portland), copper, feldspar, garnet (industrial), gold (2003, 2005), lead, lime, molybdenum concentrates, perlite (crude), phosphate rock, pumice and pumicite, sand and gravel (industrial), silver, stone (dimension quartzite and sandstone), zeolites (2004-05), zinc						
	XX	193,000	XX	354,000	XX	788,000
Total	XX	269,000	XX	447,000 ^r	XX	906,000
Illinois:						
Cement, portland	2,930	210,000 ^c	3,010	233,000 ^c	3,240	286,000 ^c
Clays:						
Common	179	1,010	247	1,390	119	667
Fuller's earth	(5)	W	218	W	225	W
Gemstones	NA	28	NA	70	NA	14
Sand and gravel:						
Construction	34,600	161,000	38,700	203,000	37,400	210,000
Industrial	4,440	72,600	4,950	86,200	5,510	104,000
Stone, crushed	76,000 ³	453,000 ³	75,300 ^r	462,000 ^r	76,200	545,000
Combined values of lime, peat, stone [crushed sandstone (2003), dimension dolomite (2005)], tripoli, and values indicated by symbol W						
	XX	74,000	XX	65,000 ^r	XX	64,500
Total	XX	971,000	XX	1,050,000	XX	1,210,000

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Indiana:						
Cement, portland	2,930	203,000 ^e	3,080	218,000 ^e	3,060	243,000 ^e
Clays, common	385	767	729	1,890	809	13,500
Gemstones	NA	4	NA	4	NA	4
Sand and gravel, construction	32,900	129,000	28,300	116,000	28,400	135,000
Stone:						
Crushed	50,500	237,000	56,800	265,000 ^r	57,500	311,000
Dimension	242	42,100	251	45,500	240	46,300
Combined values of cement (masonry), clays (ball), gypsum (crude), lime, peat, sand and gravel (industrial)	XX	104,000	XX	129,000 ^r	XX	135,000
Total	XX	716,000	XX	776,000 ^r	XX	883,000
Iowa:						
Clays, common	256	763	325	1,150	630	4,740
Gemstones	NA	2	NA	2	NA	2
Sand and gravel, construction	13,400	61,000	17,100	74,300	19,900	93,100
Stone, crushed	35,600	207,000	35,800 ^r	219,000 ^r	34,500	251,000
Combined values of cement, gypsum (crude), lime, peat, sand and gravel (industrial)	XX	235,000	XX	239,000	XX	292,000
Total	XX	504,000	XX	534,000 ^r	XX	641,000
Kansas:						
Cement, portland	2,270	173,000 ^e	2,690	212,000 ^e	2,890	244,000 ^e
Clays, common	632	10,000	621	7,460	654	4,590
Gemstones	NA	1	NA	1	NA	1
Helium, Grade-A million cubic meters	77	179,000	82	189,000	90	226,000
Salt	2,770	123,000	2,890	127,000	2,890	135,000
Sand and gravel, construction	10,700	34,900	9,930	32,800	10,100	36,900
Stone:						
Crushed	20,700	111,000	20,600 ^r	122,000 ^r	22,100	159,000
Dimension	15	1,640	14	1,730	13	1,590
Combined values of cement (masonry), clays (fuller's earth), gypsum (crude), helium (crude), pumice and pumicite, sand and gravel (industrial)	XX	65,100	XX	75,300	XX	63,100
Total	XX	696,000	XX	768,000 ^r	XX	870,000
Kentucky:						
Clays, common	983	3,770	978	4,510	1,060	4,370
Gemstones	NA	22	NA	22	NA	78
Sand and gravel, construction	10,000	46,500	10,300	49,700	10,500	55,000
Stone, crushed	52,400	326,000	62,100 ^{r,3}	384,000 ^{r,3}	58,200 ³	421,000 ³
Combined values of cement, clays (ball), lime, stone [crushed dolomite (2004-05)]	XX	220,000	XX	253,000 ^r	XX	285,000
Total	XX	597,000	XX	691,000 ^r	XX	765,000
Louisiana:						
Clays, common	670	1,690	399	1,030 ^r	416	13,100
Gemstones	NA	6	NA	6	NA	6
Salt	12,600	152,000	14,300	186,000	13,800	182,000
Sand and gravel:						
Construction	21,200	105,000	19,400	103,000	18,600	113,000
Industrial	499	17,200	476	14,800	509	11,600
Combined values of gypsum (crude), lime, stone [crushed limestone and sandstone (2004-05), limestone, sandstone, miscellaneous (2003)]	XX	91,000	XX	51,300 ^r	XX	73,800
Total	XX	367,000	XX	356,000	XX	393,000
Maine:						
Clays, common	49 ^e	125 ^e	49	W	50	W
Gemstones	NA	262	NA	268	NA	272
Sand and gravel, construction	10,400	47,600	10,800	49,100	11,100	57,400
Stone, crushed	3,530	22,500	4,370	29,500	4,490	30,700

See footnotes at end of table.

TABLE 5—Continued
 NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Maine—Continued:						
Combined values of cement [masonry (2003-04), portland], peat, stone (dimension granite), and values indicated by symbol W	XX	36,700	XX	39,300	XX	52,400
Total	XX	107,000	XX	118,000	XX	141,000
Maryland:						
Cement, portland	2,200	147,000 ^c	2,520	175,000 ^c	3,550	210,000 ^c
Clays, common	269	550	262	571	317	686
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	11,800	79,900	12,700	75,500	12,300	89,500
Stone:						
Crushed	26,200 ³	165,000 ³	35,300 ^r	214,000 ^r	33,100	274,000
Dimension	24	2,700	27	9,580	26	3,010
Combined values of cement (masonry), sand and gravel (industrial), stone [crushed marble, shell, traprock (2003-04)]	XX	31,700	XX	(7)	XX	(7)
Total	XX	427,000	XX	474,000 ^r	XX	577,000
Massachusetts:						
Clays, common	36	321	36	(7)	37	(7)
Gemstones	NA	1	NA	1	NA	1
Lime	(5)	(7)	(5)	(7)	(5)	(7)
Sand and gravel, construction	12,900	80,800	14,400	90,000	16,500	117,000
Stone:						
Crushed	13,000	111,000	13,700 ^r	109,000	13,200	121,000
Dimension	81	11,300	82	11,600	82	11,500
Total	XX	204,000	XX	211,000 ^r	XX	250,000
Michigan:						
Cement, masonry	237	24,300 ^c	231	27,100 ^c	228	27,500 ^c
Clays, common	588	3,050	605	3,070	334	514
Gemstones	NA	1	NA	1	NA	1
Gypsum, crude	500	6,130	452	5,660	1,050	10,700
Peat	125	3,460	122	3,360	117	3,300
Sand and gravel:						
Construction	71,000	253,000	69,500	254,000	64,800	243,000
Industrial	2,130	31,400	1,690	25,200	1,610	24,500
Stone, crushed	33,600 ³	123,000 ³	36,700 ^{r,3}	143,000 ^{r,3}	36,100	141,000
Combined values of bromine, cement (portland), iron ore (usable shipped), iron oxide pigments (crude), lime, magnesium compounds, potash, salt, stone [crushed marl and miscellaneous (2003), crushed marl (2004), dimension dolomite and sandstone]	XX	1,140,000	XX	1,210,000	XX	1,300,000
Total	XX	1,580,000	XX	1,680,000 ^r	XX	1,750,000
Minnesota:						
Clays, common	20	22	20	22	20	22
Gemstones	NA	6	NA	6	NA	6
Iron ore, usable shipped	34,000	1,030,000	41,400	1,560,000	40,600	1,830,000
Lime	(5)	(7)	(5)	(7)	(5)	(7)
Peat	60	5,070	63	5,210	68	5,670
Sand and gravel:						
Construction	48,900	212,000	54,900	235,000	54,100	253,000
Industrial	(5)	(7)	(5)	(7)	(5)	(7)
Stone:						
Crushed	9,880	61,800	10,400 ^{r,3}	64,900 ^{r,3}	10,500	86,900
Dimension	16	11,900	22	12,400	19	13,400
Total	XX	1,320,000	XX	1,880,000 ^r	XX	2,190,000

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Mississippi:						
Clays:						
Common	524	2,050	610	2,700	642	2,860
Fuller's earth	534	42,700	381	35,200	354	33,000
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	14,600	82,600	14,100	80,700	14,400	85,200
Stone, crushed	2,850	33,900	2,760	34,200	3,500	41,700
Combined values of cement (portland), clays (ball, bentonite), sand and gravel (industrial)	XX	31,400	XX	41,500	XX	52,000
Total	XX	193,000	XX	194,000	XX	215,000
Missouri:						
Cement, portland	5,180	352,000 ^e	5,260	388,000 ^e	5,330	464,000 ^e
Clays:						
Common	970	3,660	911	3,290	822	3,400
Fire	307	7,230	(5)	W	(5)	W
Sand and gravel:						
Construction	10,600	49,400	12,200	60,000	12,200	61,600
Industrial	586	12,800	589	14,200	559	14,500
Stone, crushed	71,500	426,000	92,600 ^r	564,000 ^r	99,400	733,000
Combined values of cadmium [byproduct of zinc concentrates (2004-05)], cement (masonry), clays (fuller's earth), copper, gemstones (natural), lead, lime, silver, stone (dimension granite), zinc, and values indicated by symbol W	XX	488,000	XX	593,000	XX	666,000
Total	XX	1,340,000	XX	1,620,000 ^r	XX	1,940,000
Montana:						
Clays, bentonite	181	14,900	102	8,400	128	5,440
Gemstones	NA	707	NA	653	NA	644
Palladium ⁴ kilograms	14,000	91,400	13,700	102,000	13,300	87,100
Platinum ⁴ do.	4,170	93,100	4,040	110,000	3,920	113,000
Sand and gravel, construction	15,200	74,200	14,400	80,000	14,000	83,600
Stone:						
Crushed	3,060	12,200	4,090	13,700 ^r	3,540	16,800
Dimension	14	2,590	14	2,550	12	2,620
Combined values of cadmium [byproduct in zinc concentrates (2004-05)], cement [masonry (2003, 2005), portland], clays (common), copper, garnet [industrial (2005)], gold, lead, lime, molybdenum concentrates, peat, silver, talc (crude), zinc	XX	205,000	XX	303,000	XX	538,000
Total	XX	494,000	XX	621,000 ^r	XX	847,000
Nebraska:						
Cement:						
Masonry	(5)	(7)	(5)	(7)	(5)	(7)
Portland	(5)	(7)	(5)	(7)	(5)	(7)
Clays, common	133 ^e	338 ^e	133 ^e	338 ^e	160 ^e	(7)
Gemstones	NA	4	NA	4	NA	4
Lime	8	692	11	514	12	625
Sand and gravel:						
Construction	13,300	45,000	15,100	53,200	14,300	60,200
Industrial	(5)	(7)	(5)	(7)	--	--
Stone, crushed	6,960	49,200	6,900	51,900	6,950	49,300
Total	XX	95,300	XX	106,000	XX	110,000
Nevada:						
Clays:						
Bentonite	6	817	7	W	7	W
Fuller's earth	28	3,870	(5)	W	(5)	W
Gold ⁴ kilograms	227,000	2,660,000	216,000	2,850,000	212,000	3,030,000
Sand and gravel, construction	37,100	174,000	43,100	197,000	52,300	230,000

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Nevada—Continued:						
Silver ⁴ kilograms	322,000	50,900	302,000	65,000	276,000	65,200
Stone, crushed	7,830	48,500	9,760	72,800	9,320	66,800
Combined values of barite, brucite (2003-04), cement (portland), clays (kaolin), copper (2004-05), diatomite, gemstones, gypsum (crude), lime, lithium carbonate, magnesite, perlite (crude), salt, sand and gravel (industrial), zeolites (2004-05), and values indicated by symbol W	XX	252,000	XX	286,000	XX	488,000
Total	XX	3,190,000	XX	3,470,000	XX	3,880,000
New Hampshire:						
Gemstones	NA	6	NA	6	NA	6
Sand and gravel, construction	8,470	41,200	8,940	46,600	8,400	47,400
Stone:						
Crushed	4,110	21,400	4,720 ^r	23,900 ^r	5,100	40,900
Dimension, granite	(5)	(7)	(5)	(7)	(5)	(7)
Total	XX	62,500	XX	70,500 ^r	XX	88,200
New Jersey:						
Clays, common	(5)	W	(5)	122	(5)	W
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	18,200	105,000	20,100	120,000	21,200	145,000
Industrial	1,570	32,700	2,020	35,800	1,820	34,100
Stone, crushed	24,800	179,000	25,400 ^{r,3}	185,000 ^{r,3}	22,700	160,000
Combined values of greensand marl, peat, stone [crushed miscellaneous (2004)], and values indicated by symbol	XX	4,190	XX	4,400 ^r	XX	4,110
Total	XX	321,000	XX	345,000 ^r	XX	344,000
New Mexico:						
Clays, common	36	209	34	177	36	221
Copper ⁴	88	165,000	122	362,000	131	502,000
Gemstones	NA	20	NA	20	NA	19
Sand and gravel:						
Construction	13,300	65,300	13,600	89,500	16,000	112,000
Industrial	--	--	--	--	113	W
Silver ⁴ kilograms	--	--	3,570	767	6,390	1,510
Stone:						
Crushed	3,730	26,000	2,830 ^{r,3}	16,400 ^{r,3}	3,010	20,100
Dimension	57	2,590	57	2,430	7	279
Combined values of cement, gold (2004-05), gypsum (crude), helium [Grade-A (2003-04)], lime, mica [crude (2003-04)], molybdenum concentrates, perlite (crude), potash, pumice and pumicite, salt, stone [crushed granite (2004)], zeolites (2004-05), and values indicated by symbol W.	XX	310,000	XX	397,000 ^r	XX	513,000
Total	XX	569,000	XX	868,000 ^r	XX	1,150,000
New York:						
Clays, common	644	8,050	756	10,900	785	11,700
Gemstones	NA	65	NA	74	NA	78
Gypsum, crude	--	--	--	--	2,230	11,400
Salt	5,230	225,000	6,430	301,000	6,840	327,000
Sand and gravel, construction	30,200	172,000	33,100	189,000	31,300	204,000
Stone:						
Crushed	53,700	352,000	49,400 ^r	327,000 ^r	52,700	445,000
Dimension	65	6,110	44	4,560	42	7,470
Combined values of cement, garnet (industrial), peat, sand and gravel [industrial (2003-04)], talc (crude), wollastonite	XX	235,000	XX	256,000	XX	286,000
Total	XX	998,000	XX	1,090,000 ^r	XX	1,290,000

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
North Carolina:						
Clays:						
Common	2,190	10,900	2,260	12,900	2,180	13,900
Kaolin	(5)	4,500	34	764	27	593
Feldspar	362	18,900	351	20,500	351	19,000
Gemstones	NA	279	NA	280	NA	280
Mica, crude	39	9,580	40	9,600	39	10,200
Sand and gravel:						
Construction	10,500	55,600	11,500	59,700	12,000	63,900
Industrial	1,530	26,700	1,630	29,000	1,150	29,200
Stone:						
Crushed	67,100	505,000	72,300	549,000 ^r	74,300	638,000
Dimension	47	18,700	43	18,200	39	17,000
Combined values of olivine (2003-04), phosphate rock, pyrophyllite (crude)	XX	84,500	XX	105,000	XX	(7)
Total	XX	734,000	XX	805,000 ^r	XX	792,000
North Dakota:						
Clays, common	(5)	W	(5)	186	76	W
Gemstones	NA	4	NA	4	NA	4
Sand and gravel, construction	13,500	35,900	11,700	32,800	11,300	34,500
Stone, crushed	(5)	W	(5)	W	89	396
Combined values of lime, sand and gravel (industrial), stone [crushed limestone, volcanic cinder, and miscellaneous (2003), crushed granite, traprock, volcanic cinder, miscellaneous (2004)], and values indicated by symbol W	XX	10,600	XX	11,300 ^r	XX	10,800
Total	XX	46,500	XX	44,300 ^r	XX	45,600
Ohio:						
Cement:						
Masonry	(5)	W	1,020	85,700 ^e	(5)	W
Portland	1,030	82,200 ^e	98	13,000 ^e	986	89,200 ^e
Clays:						
Common	1,440	7,430	1,360	7,480	1,310	6,880
Fire	(5)	W	42	W	55	W
Gemstones	NA	4	NA	4	NA	4
Lime	1,880	114,000	1,880	127,000	1,790	130,000
Sand and gravel:						
Construction	47,300	242,000	50,800	263,000	51,700	288,000
Industrial	1,120	32,100	1,180	34,200	1,230	37,900
Stone:						
Crushed	70,500	339,000	76,500 ^r	396,000 ^r	75,200	437,000
Dimension	30	5,090	38	5,100	28	4,880
Combined values of peat, salt, and values indicated by symbol W	XX	188,000	XX	197,000	XX	211,000
Total	XX	1,010,000	XX	1,130,000 ^r	XX	1,210,000
Oklahoma:						
Clays, common	1,160	2,390	1,150	2,410	903	2,520
Gemstones	NA	197	NA	4	NA	43
Gypsum, crude	2,250	14,100	3,250	20,800	2,620	18,400
Iodine, crude	metric tons	1,090	1,130	W	1,570	W
Sand and gravel:						
Construction	11,000	48,500	12,000	53,700	13,300	65,000
Industrial	1,360	29,700	1,390	31,600	1,480	33,500
Stone:						
Crushed	40,100	193,000	39,800 ^r	206,000 ^r	45,400	257,000
Dimension	17	2,100	17	2,100	3	501
Tripoli	metric tons	10,600	32,100	2,120	30,600	1,950

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Oklahoma—Continued:						
Combined values of cement, feldspar, helium (Grade-A), lime, salt, and values indicated by symbol W	XX	179,000	XX	199,000	XX	227,000
Total	XX	470,000	XX	519,000 ^r	XX	606,000
Oregon:						
Clays, bentonite	(5)	W	10	W	9	W
Gemstones	NA	1,200	NA	1,210	NA	1,180
Sand and gravel, construction	18,500	110,000	21,000	125,000	22,000	146,000
Stone, crushed	21,800	117,000	22,700 ^r	126,000	26,000	157,000
Zeolites metric tons	(5)	NA	--	--	--	--
Combine values of cement (portland), clays (common), diatomite, lime, perlite (crude), pumice and pumicite, talc (crude), and values indicated by symbol W	XX	92,700	XX	114,000	XX	128,000
Total	XX	320,000	XX	367,000	XX	432,000
Pennsylvania:						
Cement:						
Masonry	342	35,900 ^e	(5)	W	399	49,700 ^e
Portland	5,720	421,000 ^e	6,230	473,000 ^e	6,290	554,000 ^e
Clays, common	750	2,240	822	3,270	705	3,460
Gemstones	NA	1	NA	1	NA	1
Lime	1,190	90,100	1,220	100,000	1,100	104,000
Peat	8	219	11	307	7	210
Sand and gravel:						
Construction	18,400	115,000	20,000	127,000	17,000	111,000
Industrial	(5)	W	(5)	W	711	15,400
Stone:						
Crushed	104,000	597,000	113,000 ^r	639,000 ^r	106,000	704,000
Dimension	32	10,400	33	10,100	35	11,800
Combined values of tripoli and values indicated by symbol W	XX	(7)	XX	55,800	XX	(7)
Total	XX	1,270,000	XX	1,410,000 ^r	XX	1,550,000
Rhode Island:						
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	2,450	21,000	2,490	22,000	2,510	23,000
Industrial	(5)	(7)	(5)	(7)	(5)	(7)
Stone, crushed	1,340	10,700	1,600 ³	12,400 ³	1,610 ⁴	12,400 ⁴
Total	XX	31,700	XX	34,400	XX	35,400
South Carolina:						
Cement:						
Masonry	425	43,700 ^e	453	49,900 ^e	498	54,300 ^e
Portland	3,150	194,000 ^e	3,110	196,000 ^e	3,270	247,000 ^e
Clays:						
Common	1,060	2,660	1,050	3,350	1,020	3,610
Fire	(5)	W	1	64	54	892
Kaolin	355	21,700	296	19,600	287	17,700
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	10,100	34,700	9,960	35,100	11,100	45,200
Industrial	655	16,700	719	17,600	794	19,400
Stone:						
Crushed	27,300	184,000	31,300	210,000	33,800 ³	258,000 ³
Dimension	9	850	9	850	9	850
Combined values of mica (crude), stone [crushed marble (2005)], vermiculite (crude), and value indicated by symbol W	XX	10,100	XX	(7)	XX	12,600
Total	XX	508,000	XX	532,000	XX	659,000

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
South Dakota:						
Clays, common	213	W	188	W	183	W
Sand and gravel, construction	11,800	44,800	14,000	51,700	12,800	45,500
Stone, crushed	6,880	24,700	6,410 ^r	27,600 ^r	6,650	30,600
Combined values of cement (portland), feldspar, gemstones, gold, gypsum (crude), lime, mica (crude), stone (dimension granite), and values indicated by symbol W	XX	130,000	XX	131,000	XX	139,000
Total	XX	199,000	XX	210,000 ^r	XX	215,000
Tennessee:						
Clays:						
Ball	766	33,400	762	34,300	740	32,500
Common	304	585	365	3,140	372	3,210
Fuller's earth	92 ^e	5,000 ^e	(5)	W	(5)	W
Sand and gravel:						
Construction	7,550	44,100	7,830	47,500	7,570	51,500
Industrial	961	21,800	975	26,100	985	26,500
Stone, crushed	55,100	354,000	57,900	381,000 ^r	63,900	482,000
Combined values of cadmium [byproduct in zinc concentrates (2004)], cement, clays (kaolin), gemstones, lime, salt, stone (dimension marble), zinc (2003-04), and values indicated by symbol W	XX	164,000	XX	160,000 ^r	XX	174,000
Total	XX	623,000	XX	652,000 ^r	XX	770,000
Texas:						
Cement:						
Masonry	307	36,100 ^e	319	38,000 ^e	395	48,500 ^e
Portland	11,100	747,000 ^e	11,200	800,000 ^e	11,600	951,000 ^e
Clays:						
Common	2,110	8,890	2,160	8,890	2,340	8,680
Fuller's earth	27	2,400	(5)	W	(5)	W
Kaolin	33	7,150	(5)	W	(5)	W
Gemstones	NA	201	NA	201	NA	201
Gypsum, crude	1,810	12,300	2,450	18,800	1,540	11,800
Lime	1,630	110,000	1,630	115,000	1,610	112,000
Salt	9,640	116,000	9,870	118,000	9,600	118,000
Sand and gravel:						
Construction	86,200	425,000	81,700	436,000	80,700	472,000
Industrial	1,930	81,700	2,790	109,000	2,840	114,000
Stone:						
Crushed	126,000	595,000	122,000	621,000 ^r	134,000	823,000
Dimension	87	16,400	64	15,200	44	12,200
Talc, crude	246	W	258	W	(5)	W
Combined values of brucite, clays (ball, bentonite), helium, zeolites (2004-05), and values indicated by symbol W	XX	33,300	XX	46,300	XX	49,300
Total	XX	2,190,000	XX	2,330,000 ^r	XX	2,720,000
Utah:						
Beryllium concentrates	metric tons	2,100	NA	2,210	NA	2,780
Clays:						
Bentonite	(5)	W	73	W	64	W
Common	300	3,270	443	5,600	478	6,710
Gemstones	NA	233	NA	235	NA	235
Salt	2,200	119,000	2,250	107,000	2,250	132,000
Sand and gravel, construction	27,400	113,000	29,800	125,000	33,900	149,000
Stone, crushed	7,820	40,100	8,030 ^r	45,100 ^r	8,350	46,600

See footnotes at end of table.

TABLE 5—Continued
 NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Utah—Continued:						
Combined values of cement (portland), copper, gold, gypsum (crude), helium (Grade-A), lime, magnesium compounds, magnesium metal, molybdenum concentrates, perlite (crude), phosphate rock, potash, silver, stone (dimension sandstone), and values indicated by symbol W	XX	1,080,000	XX	1,660,000	XX	2,460,000
Total	XX	1,360,000	XX	1,950,000 ^f	XX	2,790,000
Vermont:						
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	4,520	21,100	4,970	24,000	5,240	32,000
Stone:						
Crushed	4,290	23,900	5,110	30,800	5,480 ³	37,000 ³
Dimension	102	26,700	100	30,600	98	27,800
Talc, crude metric tons	(5)	(7)	(5)	(7)	(5)	(7)
Total	XX	71,800	XX	85,400	XX	96,800
Virginia:						
Clays:						
Bentonite	--	--	5	W	--	--
Common	958	2,530	994	4,640	983	4,690
Kyanite ^c	90	13,400	90	13,400	90	13,400
Sand and gravel, construction	11,300	65,500	12,800	75,800	12,000	85,800
Stone:						
Crushed	66,500	481,000	73,700 ^{r,3}	540,000 ^{r,3}	86,200	778,000
Dimension	6	651	5	594	6	631
Talc, crude	--	--	--	--	1	15
Combined values of cement, clays (fuller's earth), feldspar, gemstones, iron oxide pigments (crude), lime, sand and gravel (industrial), stone [crushed marble (2004)], titanium concentrates (ilmenite), vermiculite (crude), zirconium concentrates, and value indicated by symbol W	XX	223,000	XX	256,000 ^f	XX	272,000
Total	XX	786,000	XX	891,000 ^f	XX	1,160,000
Washington:						
Clays, common	83	204	(5)	W	(5)	W
Gemstones	NA	44	NA	44	NA	44
Sand and gravel, construction	40,700	216,000	41,500	227,000	47,200	282,000
Stone, crushed	12,000	73,700	12,100 ^f	75,500 ^f	13,900	96,300
Combined values of cadmium byproduct in zinc concentrates (2004-05), cement (portland), diatomite, gold (2004-05), lead (2004-05), lime, olivine, peat, sand and gravel (industrial), silver (2004-05), stone [dimension miscellaneous (2004-05)], zinc (2004-05), and values indicated by symbol W	XX	107,000	XX	205,000	XX	255,000
Total	XX	396,000	XX	507,000	XX	633,000
West Virginia:						
Clays, common	142	376	161	441	186	524
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	971	4,750	524	2,500	318	1,630
Industrial	(5)	W	343	17,300	369	17,800
Stone, crushed	14,100	69,100	14,700	72,600 ^f	14,500	99,400
Combined values of cement, lime, peat, salt, stone (dimension sandstone), and value indicated by symbol W	XX	90,100	XX	73,500	XX	81,100
Total	XX	164,000	XX	166,000 ^f	XX	200,000

See footnotes at end of table.

TABLE 5—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Wisconsin:						
Cement, portland	(5)	(7)	(5)	(7)	(5)	(7)
Gemstones	NA	6	NA	6	NA	6
Lime	757	46,000	850	53,900	888	61,300
Peat	(5)	(7)	(5)	(7)	(5)	(7)
Sand and gravel:						
Construction	38,500	150,000	43,400	178,000	43,200	191,000
Industrial	1,930	40,200	2,140	47,000	2,250	55,700
Stone:						
Crushed	35,900	160,000	39,300 ^r	172,000 ^r	38,900	227,000
Dimension	101	19,700	232	23,800	278	27,600
Total	XX	417,000	XX	475,000 ^r	XX	562,000
Wyoming:						
Clays:						
Bentonite	3,420	148,000	3,510	151,000	4,160	190,000
Common	25	55	49	107	53	128
Gemstones	NA	13	NA	13	NA	14
Sand and gravel, construction	8,290	36,400	10,200	40,100	11,700	52,400
Stone, crushed	5,020	22,600	6,300 ^r	35,300 ^r	7,370	41,800
Combined values of cement (portland), gypsum (crude), helium (Grade-A), lime, soda ash, zeolites (2004-05)	XX	792,000	XX	819,000	XX	1,010,000
Total	XX	999,000	XX	1,050,000 ^r	XX	1,300,000
Undistributed:						
Connecticut, Delaware, Hawaii (2003), Maryland (2005), Massachusetts, Minnesota, Nebraska, New Hampshire, North Carolina (2005), Pennsylvania (2003, 2005), Rhode Island, South Carolina (2004), Vermont, Wisconsin, undistributed	XX	220,000	XX	193,000 ^r	XX	431,000

^cEstimated. ^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data; included in "Combined values" data for each State. XX Not applicable. -- Zero.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers)

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Excludes certain stones; kind and value included in "Combined value."

⁴Recoverable content of ores, etc.

⁵Withheld to avoid disclosing company proprietary data.

⁶Grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

⁷Withheld to avoid disclosing company proprietary data; values included in "Undistributed."

TABLE 6
NONFUEL RAW MINERAL PRODUCTION IN THE COMMONWEALTH OF PUERTO RICO AND ISLANDS ADMINISTERED
BY THE UNITED STATES^{1, 2}

(Thousand metric tons and thousand dollars)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Puerto Rico:						
Cement, portland	1,490	W	1,580	W	1,580	W
Clays, common	114	585	114	585	116	596
Lime	(3)	W	11	2,250	11	2,250
Salt	45	1,500	45	1,500	45	1,500
Stone, crushed	9,130	60,000	8,660	57,600	7,830	51,900
Combined values of sand and gravel (industrial), stone (dimension marble), and values indicated by symbol W	XX	119,000	XX	125,000	XX	153,000
Total	XX	181,000	XX	187,000	XX	209,000
Administered Islands:						
American Samoa, stone, crushed, traprock	(3)	(3)	(3)	(3)	(3)	(3)
Guam, stone, crushed	728	7,670	1,410	13,000	1,410	13,000
Virgin Islands, stone, crushed, limestone and traprock	(3)	(3)	(3)	(3)	257	2,730
Total	XX	7,670	XX	13,000	XX	15,800

W Withheld to avoid disclosing company proprietary data; withheld values included in "Combined values" data. XX Not applicable.

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

²Production as measured by mine shipments, sales, or marketable production (including consumption by producers)

³Withheld to avoid disclosing company proprietary data.

TABLE 7
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Metals:					
Aluminum:					
Crude and semicrude	metric tons	1,820,000	4,130,000	2,370,000	5,410,000
Manufactures	do.	129,000	437,000	135,000	482,000
Antimony:					
Metal, alloys, waste and scrap	do.	566	2,280	740	3,250
Oxide, antimony content	do.	3,240	13,200	1,400	5,860
Arsenic metal, arsenic content	do.	220	20,700	327	30,700
Bauxite and alumina:					
Alumina, calcined equivalent		1,230	439,000	1,210	631,000
Bauxite:					
Calcined, refractory and other grade		21	2,950	18	2,330
Crude and dried		42	7,910	34	7,020
Speciality aluminum compounds, sulfate, chloride, fluoride-based	metric tons	26,500 ^r	20,600 ^r	26,900	21,600
Beryllium, unwrought, and waste and scrap, other including articles not elsewhere specified	kilograms	217,000	19,600	201,000	16,300
Bismuth, metal, alloys, waste and scrap, bismuth content	do.	109,000	2,500	142,000	4,760
Cadmium:					
Metal, includes cadmium in alloys and scrap	do.	132,000	861	668,000	1,330
Sulfide, gross weight	do.	160,000	76	120,000	55
Chromium:					
Ores and concentrate	metric tons	43,100	10,400	42,600	9,940
Metals and alloys:					
Metal, unwrought powders, waste and scrap, other	do.	931	17,600	1,020	16,900
Ferrous alloys, high-carbon, low-carbon, ferrochromium-silicon	do.	9,140	12,000	36,300	38,900
Chemicals:					
Oxides, trioxides and other	do.	12,900	22,200	10,700	18,300
Sulfates	do.	39	417	79	376
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium dichromate, potassium dichromate, other	do.	21,800	14,400	37,900	27,200
Pigments and preparations	do.	671	3,780	767	4,090
Cobalt:					
Acetates and chlorides	do.	666	5,490	703	3,820
Oxides and hydroxides	do.	324	13,800	829	17,100
Metal:					
Unwrought, powders, waste and scrap, mattes, other intermediate products of metallurgy	do.	2,110	79,400	1,670	60,600
Wrought and cobalt articles	do.	1,150	48,400	2,340	91,800
Columbium (niobium) and tantalum:					
Columbium:					
Ores and concentrates	do.	16	108	43	398
Ferrocolumbium	do.	294	2,920	410	4,210
Tantalum:					
Ores and concentrates, includes synthetic	do.	723	19,300	545	9,300
Unwrought, waste and scrap, powders, alloys, metal	do.	598	173,000	699	136,000
Wrought	do.	162	83,400	110	49,000
Copper:					
Unmanufactured, does not include unalloyed scrap, copper content	do.	211,000	429,000	260,000	467,000
Semimanufactures	do.	236,000	863,000	254,000	1,100,000
Scrap, alloyed and unalloyed	do.	714,000	882,000	658,000	1,060,000
Ferroalloys not listed elsewhere:					
Ferrophosphorous	do.	388	335	NA	NA
Other	do.	1,620	2,670	NA	NA
Gold:					
Ores and concentrates	kilograms	1,150	10,200	1,380	13,400
Dore and precipitates	do.	142,000	1,860,000	141,000	2,020,000
Bullion, refined	do.	114,000	1,500,000	182,000	2,550,000
Waste and scrap	do.	725,000 ^r	815,000	563,000	670,000

See footnotes at end of table.

TABLE 7—Continued
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005	
	Quantity	Value	Quantity	Value
Metals—Continued:				
Gold—Continued:				
Metal powder kilograms	647	8,670	687	9,280
Compounds do.	1,170,000	29,000	1,310,000	30,900
Indium ^c metric tons	NA	NA	NA	NA
Iron and steel:				
Steel mill products	7,200	9,280,000	8,460	NA
Fabricated steel products	1,470 ^r	4,340,000	1,710	NA
Cast iron and steel products	234	661,000	193	NA
Iron and steel scrap:				
Ferrous, includes tinplate and ternplate, excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping	11,800	2,910,000	13,000	3,430,000
Pig iron, all grades	48	6,690	51	8,110
Direct-reduced iron, steelmaking grade	13	1,360	(2)	16
Ships, boats, and other vessels for scrapping	16	2,680	3	476
Used rails for rerolling and other uses, includes mixed (used plus new) rails	42	18,100	55	25,600
Iron ore	8,400	334,000	11,800	584,000
Lead:				
Base bullion, Pb content metric tons	129	841	198	1,290
Ore and concentrates, Pb content do.	292,000	157,000	390,000	190,000
Unwrought and alloys, Pb content do.	58,600	50,100	45,500	46,100
Wrought and alloys, Pb content do.	23,800	42,300	19,000	40,800
Scrap, gross weight do.	56,300	14,800	67,300	21,600
Magnesium:				
Waste and scrap, Mg content do.	4,790	11,300	5,630	13,100
Metal, Mg content do.	1,760	3,830	732	2,470
Alloys, gross weight do.	1,750	7,780	1,200	5,870
Powder, sheets, tubing, ribbons, wire, other forms, gross weight do.	3,530	25,800	2,080	22,400
Manganese, gross weight:				
Ores and concentrates with 20% or more manganese do.	123,000	12,400	13,500	3,940
Ferromanganese, all grades do.	9,120	10,600	14,400	14,900
Silicomanganese do.	502	632	899	1,220
Metal, including alloys and waste and scrap do.	2,790	6,090	2,670	5,960
Dioxide do.	4,000	3,680	5,900	5,040
Mercury:				
Metal do.	278	2,310	319	5,810
Amalgams of precious metals whether or not chemically defined do.	603	155,000	1,160	231,000
Molybdenum:				
Ore and concentrates, including roasted and other, Mo content do.	46,200	358,000	46,400	1,450,000
Chemicals:				
Oxides and hydroxides, gross weight do.	5,280	80,300	14,600	375,000
Molybdates, all, gross weight do.	2,680	28,500	2,150	54,500
Ferromolybdenum, Mo content do.	925	21,200	2,090	43,400
Other, includes powders, unwrought, bars and rods, waste and scrap, wire, other, gross weight do.	1,520	66,000	2,030	139,000
Nickel, Ni content:				
Primary, unwrought and chemicals do.	8,000	186,000	7,630	219,000
Secondary, stainless steel scrap and waste and scrap do.	48,300	609,000	55,600	731,000
Wrought, not alloyed, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes do.	1,120	16,400	1,340	26,700
Alloyed, unwrought ingot, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes, other alloyed articles, gross weight do.	29,700	566,000	37,700	819,000
Platinum-group metals:				
Palladium, Pd content kilograms	31,500 ^r	143,000 ^r	27,000	122,000
Platinum, includes waste and scrap, Pt content do.	28,400 ^r	520,000 ^r	24,900	482,000
Iridium, osmium, ruthenium, gross weight do.	1,090 ^r	8,800 ^r	1,070	7,190
Rhodium, Rh content do.	314 ^r	7,900 ^r	615	28,900

See footnotes at end of table.

TABLE 7—Continued
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Rare earths, estimated rare-earth oxide content:					
Cerium compounds	kilograms	2,280,000	12,600	2,220,000	13,600
Compounds, inorganic and organic	do.	4,800,000	18,900	2,070,000	14,100
Metals, including scandium and yttrium	do.	1,010,000	6,050	636,000	5,180
Ferrocerium and other pyrophoric alloys	do.	3,720,000	16,800	4,320,000	18,000
Selenium, Se content	do.	160,000	2,820 ^r	254,000	3,040
Silicon, gross weight:					
Ferrosilicon	metric tons	11,500	11,700	13,400	13,400
Metal	do.	18,600	489,000	23,400	847,000
Silver:					
Bullion, Ag content	kilograms	302,000	64,500	166,000	45,900
Dore, Ag content	do.	79,800	18,800	132,000	35,000
Metal powder, gross weight	do.	708,000	122,000	809,000	139,000
Nitrate, gross weight	do.	61,500	5,720	56,600	4,180
Ores and concentrates, Ag content	do.	1,560	306	3,680	834
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	do.	269,000	48,300	308,000	54,500
Waste and scrap, gross weight	do.	2,240,000	424,000	2,880,000	576,000
Unwrought, other, gross weight	do.	39,600	8,690	20,500	5,280
Thallium, unwrought powders, waste and scrap, others	do.	1,190	276	252	102
Thorium and thorium-bearing materials, thorium ore, monazite concentrate, compounds	do.	731	298	737	281
Tin:					
Ingots and pigs	metric tons	3,650	25,700	4,330	30,500
Tin scrap and other tin bearing material, except tinplate scrap, includes rods, profiles, wire, powders, flakes, tubes, pipes	do.	16,800	42,900	32,800	51,200
Tinplate and terneplate	do.	262,000	169,000	252,000	188,000
Titanium:					
Metal, waste and scrap, unwrought, wrought products and castings, ferrotitanium and ferrosilicon titanium	do.	25,200	417,000 ^r	39,500	677,000
Ores and concentrates	do.	8,690	3,370	20,900	8,930
Pigment, dioxide and oxide	do.	635,000	1,090,000	524,000	1,060,000
Tungsten, W content:					
Ammonium paratungstate	do.	125	722	774	8,810
Carbide powder	do.	1,440 ^c	24,200	1,560 ^e	37,800
Metal powders	do.	433 ^e	18,700	750 ^e	28,500
Miscellaneous tungsten-bearing materials, ferrotungsten, ferrosilicon tungsten, unwrought, waste and scrap, wrought, compounds	do.	1,730	43,700	2,810	63,400
Ores and concentrates	do.	43 ^e	959	52 ^e	1,600
Vanadium:					
Aluminum-vanadium master alloy, gross weight	kilograms	14,600,000	32,200 ^r	15,100,000	45,600
Ferrovandium, V content	do.	285,000	9,210	504,000	19,300
Metal, including waste and scrap, gross weight	do.	522,000	7,770 ^r	293,000	16,400
Pentoxide, anhydride, V content	do.	240,000 ^r	4,350 ^r	254,000	5,470
Other oxides and hydroxides, V content	do.	584,000 ^r	6,230	899,000	15,400
Zinc:					
Compounds, chloride, compounds, n.s.p.f., oxide, sulfate	do.	27,200	38,100	29,700	47,200
Ores and concentrates, Zn content	do.	745,000 ^r	413,000	786,000	477,000
Rolled	do.	9,770	12,700	8,760	10,400
Slab	do.	3,300	5,330	784	1,500
Zirconium:					
Ferrozirconium	do.	913	1,310	65	100
Ores and concentrates	do.	68,800	45,500	101,000	74,000
Oxide, includes germanium oxides and zirconium dioxides	do.	1,600	18,100	2,260	21,000
Unwrought powders	do.	138	2,600	175	3,620
Waste and scrap	do.	1,560	92,400	1,800	90,300
Total		XX	36,400,000 ^r	XX	28,900,000

See footnotes at end of table.

TABLE 7—Continued
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Industrial minerals:					
Abrasives, manufactured:					
Aluminum oxide, crude	kilograms	13,900	41,200	13,900	45,100
Metallic abrasives	do.	26,500	20,600	26,900	21,600
Silicon carbide, crude, ground and refined	do.	13,900	14,600	15,600	17,400
Asbestos, includes reexports:					
Manufactured	metric tons	NA	341,000	NA	374,000
Unmanufactured	do.	1,580	333,000	1,510	398,000
Barite, natural barium sulfate	do.	69,900	6,400	92,700	9,930
Boron minerals and compounds:					
Boric acid, includes orthoboric and anhydrous		61	35,000	183	96,800
Sodium borates		135	60,200	308	110,000
Bromine:					
Compounds, includes methyl bromine and ethylene dibromide, Br content	metric tons	6,600	13,800	6,830	16,800
Elemental, gross weight	do.	2,840	2,070	2,710	3,990
Cement, hydraulic and clinker		818	63,000	803	68,300
Clays:					
Ball		107	8,200	141	8,840
Bentonite		915	105,000	847	98,500
Fire		332	32,300	368	34,400
Fuller's earth		49	10,300	55	13,500
Kaolin		3,640	600,000	3,580	601,000
Other, n.e.c., includes chamotte or dinas earth, activated clays and earths, artificially activated clays		586	181,000	634	173,000
Diamond:					
Gemstones, natural, including reexports	thousand carats	22,600 ^r	6,870,000 ^r	25,700	8,470,000
Industrial including exports and reexports:					
Unworked	do.	2,340	21,700	1,430	26,100
Powder, dust and grit, natural and synthetic	do.	97,900	51,600	104,000	59,300
Diatomite		143	53,700	142	60,400
Feldspar	metric tons	9,630	1,420	15,200	2,070
Fluorspar	do.	20,600	3,200	36,100	7,840
Garnet, industrial ^e		11	8,990	13	9,700
Graphite, natural and artificial	metric tons	94,900	118,000 ^r	56,200	109,000
Gypsum and gypsum products:					
Crude		149	15,000	148	16,400
Plasters		332	31,800	174	33,700
Boards		83	51,100	86	58,900
Other		XX	29,300	XX	33,000
Helium, Grade-A	million cubic meters	45	87,400	51	99,100
Iodine:					
Crude/resublimed	metric tons	1,270	11,800	2,660	27,900
Potassium iodide	do.	102 ^r	1,980 ^r	68	1,550
Iron oxide pigments and hydroxides:					
Pigment grade	do.	3,120	7,380	2,220	6,170
Other grade	do.	72,700	41,800	73,100	47,100
Kyanite, andalusite, sillimanite		35 ^r	6,200 ^r	35	7,200
Lime		100	14,300 ^r	133	17,500
Lithium chemicals:					
Carbonate	metric tons	3,910	12,200	4,190	13,700
Hydroxide	do.	5,780	20,000	5,620	20,100
Magnesium compounds:					
Compounds, chlorides, hydroxide and peroxide, sulfates	do.	41,100	18,100	32,700	19,500
Magnesite, crude and processed:					
Caustic-calcined magnesia	do.	3,720	2,200	4,920	2,500
Dead-burned and fused magnesia	do.	29,900	17,300	24,900	11,400
Other magnesia	do.	23,400 ^r	17,700 ^r	21,700	18,300
Crude	do.	19,500	2,250	21,800	2,490

See footnotes at end of table.

TABLE 7—Continued
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Industrial minerals—Continued:					
Mica:					
Scrap and flake:					
Powder	metric tons	7,200	4,780	7,140	4,860
Waste	do.	2,730	731	1,480	343
Sheet:					
Unworked	do.	29	58	74	269
Worked	do.	1,060 ^r	15,000 ^r	1,350	13,900
Peat		29	3,390	36	4,020
Perlite, crude ^c	metric tons	37,000	1,500	32,000	1,300
Pumice and pumicite		27	7,000	20	7,520
Salt		1,110	47,600	879	51,800
Sand and gravel:					
Construction:					
Sand		124	27,500	137	23,400
Gravel		553	4,610	382	4,800
Industrial		1,790	174,000	2,910	154,000
Silica, special stone products		NA	8,900	NA	10,000
Soda ash		4,670	514,000	4,680	640,000
Stone:					
Crushed		1,290 ^r	54,500	1,270	50,500
Dimension		XX	63,700	XX	66,100
Strontium compounds:					
Carbonate, precipitated	metric tons	360	266	66	196
Oxide, hydroxide, peroxide	do.	469	477	301	176
Sulfur:					
Elemental		949	63,300	684	55,200
Sulfuric acid, 100% H ₂ SO ₄	metric tons	204,000	21,300	338,000	29,500
Talc, excludes powders, talcum (in package), face, compact		202	39,600	198	41,800
Vermiculite ^c		10	1,600	5	970
Wollastonite ^c	metric tons	12,500	3,750	7,000	2,100
Zeolites ^c	do.	1,000	200	5,000	1,000
Total		XX	10,400,000	XX	12,400,000
Grand total		XX	46,900,000 ^r	XX	41,400,000

^cEstimated. ^rRevised. NA Not available. XX Not applicable.

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

²Less than ½ unit.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Metals:					
Aluminum:					
Crude and semicrude	metric tons	4,720,000	9,240,000	5,330,000	11,500,000
Manufactures	do.	288,000	756,000	337,000	964,000
Antimony:					
Metal	do.	8,270	19,100	6,370	20,400
Ore and concentrate, antimony content	do.	1,750	4,900	204	622
Oxide, antimony content	do.	23,500	67,200	22,700	81,600
Arsenic:					
Acid	do.	22	32	9	50
Metal	do.	872	3,030	812	3,410
Sulfide	do.	(2)	2	--	--
Trioxide	do.	8,090	4,080	11,000	5,280
Bauxite and alumina:					
Alumina, calcined equivalent		1,650	533,000	1,860	639,000
Bauxite:					
Calcined, refractory and other grade		341	36,900	337	37,300
Crude and dried		10,000	186,000	9,850	246,000
Speciality aluminum compounds, sulfate, chloride, fluoride-based	metric tons	11,900	6,360	14,800	7,620
Beryllium, ore, concentrates, oxide, hydroxide, unwrought including powders, waste and scrap, other, beryllium-copper master alloys, beryllium-copper plates, sheets, strip ³	kilograms	1,280,000	14,200	1,040,000	16,300
Bismuth, metallic	do.	1,980,000	14,500	2,530,000	20,500
Cadmium:					
Metal	do.	38,000	127	81,300	1,040
Sulfide, gross weight	do.	1,810	23	8,760	75
Chromium:					
Chromite ore	metric tons	153,000	17,500	165,000	23,100
Metals and alloys:					
Ferrochromium-silicon	do.	30,600	31,500	33,700	31,600
Metal, unwrought powders, waste and scrap, other	do.	9,630	56,000	11,000	87,700
Chemicals:					
Oxides, hydroxides, trioxides and other	do.	9,960	18,900	14,600	32,600
Sulfates	do.	111	161	288	438
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium dichromate, potassium dichromate, other	do.	1,880	3,430	9,890	7,460
Carbide	do.	138	1,630	131	2,150
Pigments and preparations based on chromium	do.	7,540	20,200	7,510	22,100
Cobalt:					
Metal:					
Alloys, unwrought, waste and scrap, wrought, cobalt articles	do.	1,330	29,500	1,170	28,300
Unwrought, excluding alloys and waste and scrap, includes cathode and metal powder, may include intermediate products of cobalt metallurgy	do.	7,250	311,000	9,350	312,000
Oxide and hydroxides	do.	1,300	45,100	1,310	35,100
Other forms, includes acetates, carbonates, chlorides, sulfates	do.	1,720	22,100	2,200	24,800
Columbium (niobium) and tantalum:					
Columbium:					
Ores and concentrates	do.	5	41	10	119
Oxide	do.	906	13,900	946	13,400
Ferrocolumbium	do.	7,950	69,000	8,360	71,700
Unwrought, alloys, metal, powder	do.	940	18,500	1,380	26,700
Tantalum:					
Ores and concentrates, includes synthetic concentrates	do.	1,480 ^r	57,900 ^r	1,250	43,700
Unwrought, waste and scrap, powders, alloys, metal	do.	1,060	138,000	1,160	105,000
Wrought	do.	38	10,000	78	17,100

See footnotes at end of table.

TABLE 8—Continued
 U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Copper:					
Unmanufactured, does not include unalloyed scrap, copper content	metric tons	983,000	2,650,000	1,140,000	3,970,000
Semimanufactures	do.	390,000	1,270,000	524,000	1,940,000
Scrap, alloyed and unalloyed	do.	102,000	187,000	114,000	276,000
Ferrous alloys not listed elsewhere:					
Ferrophosphorus	do.	7,280	1,840	NA	NA
Other	do.	8,520	12,700	NA	NA
Gallium:					
Unwrought and waste and scrap	kilograms	19,400	4,130	15,800	4,900
Gallium arsenide wafers, doped and undoped	do.	230,000	154,000	204,000	163,000
Germanium, wrought, unwrought, waste and scrap, gross weight	do.	9,130	7,260	16,700	11,200
Gold:					
Ores and concentrates	do.	1,860	19,200	1,630	18,900
Dore and precipitates	do.	142,000	1,590,000	234,000	2,060,000
Bullion, refined	do.	139,000	1,830,000	105,000	1,520,000
Waste and scrap	do.	20,500	161,000	27,300	209,000
Metal powder	do.	10,900	59,400	1,990	6,730
Compounds	do.	60,000	1,530	29,500	935
Indium, unwrought and waste and scrap	do.	143,000	58,800	142,000	94,300
Iron and steel:					
Steel mill products		32,500	21,400,000	29,200	NA
Fabricated steel products		4,740	8,260,000	5,120	NA
Cast iron and steel products		611	638,000	744	NA
Stainless steel	metric tons	560,000	2,490,000	585,000	NA
Iron and steel scrap:					
Ferrous, includes tinplate and ternplate, excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping		4,660	1,230,000	3,840	909,000
Pig iron, all grades		6,400	1,360,000	6,030	1,580,000
Direct-reduced iron, steelmaking grade		2,450	463,000	2,170	361,000
Ships, boats, and other vessels for scrapping		(2)	128	(2)	208
Used rails for rerolling and other uses, includes mixed (used plus new) rails		131 [†]	44,100	164	62,800
Iron ore		11,800	371,000	13,000	532,000
Lead:					
Pigs and bars, Pb content	metric tons	197,000	175,000	298,000	303,000
Pigments and compounds, Pb content	do.	33,200	48,000	32,500	55,500
Scrap, reclaimed, includes ash and residues, Pb content	do.	4,780	3,510	3,340	2,880
Wrought, all forms, including wire and powders, gross weight	do.	11,000	25,200	11,900	28,900
Magnesium:					
Waste and scrap, gross weight	do.	11,700	17,600	14,700	22,700
Metal, gross weight	do.	34,300	78,200	28,700	80,700
Alloys, Mg content	do.	51,500	152,000	40,300	139,000
Powder, sheets, tubing, ribbons, wire, other forms, Mg content	do.	1,180 [†]	10,200	1,040	10,100
Manganese:					
Ores and concentrates with 20% or manganese, all grades, Mn content	do.	234,000	37,700	334,000	58,200
Ferromanganese, all grades, Mn content	do.	335,000 [†]	414,000 [†]	202,000	200,000
Silicomanganese, Mn content	do.	269,000	386,000	218,000	231,000
Metal, unwrought, other wrought, waste and scrap, gross weight	do.	34,700	49,900	33,400	57,500
Chemicals, manganese dioxide and potassium permanganate, gross weight	do.	27,600	33,000	32,600	41,600
Mercury:					
Metal	do.	92	1,350	212	2,530
Amalgams of precious metals whether or not chemically defined	do.	79 [†]	100,000	51	89,100
Molybdenum:					
Ores and concentrates, including roasted and other, Mo content	do.	8,780	268,000	11,900	746,000
Chemicals, gross weight:					
Oxides and hydroxides	do.	822	15,800	1,240	42,500
Molybdates, all	do.	2,200	19,800	4,320	54,800
Orange	do.	1,030	4,760	983	4,780

See footnotes at end of table.

TABLE 8—Continued
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Molybdenum—Continued:					
Ferromolybdenum, Mo content	metric tons	5,310	158,000	4,050	278,000
Other, includes powders, unwrought, bars and rods, waste and scrap, wire, other, gross weight	do.	896	34,300	879	72,900
Nickel, Ni content:					
Primary, chemicals and unwrought	do.	136,000	1,890,000	143,000	2,060,000
Secondary, stainless steel scrap and waste and scrap	do.	18,800	250,000	15,500	223,000
Wrought, not alloyed, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes	do.	797	20,300	1,060	26,000
Alloyed, unwrought ingot, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes, other alloyed articles	do.	19,900	349,000	23,300	481,000
Platinum-group metals, metal content:					
Platinum, grains and nuggets, sponge, other unwrought, other, waste and scrap, coins	do.	86,400	2,200,000	106,000	2,280,000
Palladium, unwrought and other	do.	127,000	931,000	139,000	855,000
Iridium, unwrought and other forms	kilograms	3,230	18,000	3,010	16,700
Osmium, unwrought	do.	75	421	39	362
Ruthenium, unwrought	do.	18,800	35,900	23,200	49,800
Rhodium, unwrought and other forms	do.	13,200	397,000	13,600	821,000
Rare earths, estimated equivalent rare-earth oxide (REO) content:					
Cerium compounds, including oxides, hydroxides, nitrates, sulfate chlorides, oxalates	do.	1,880,000	13,200 ^r	2,170,000	10,600
Yttrium compounds content by weight greater than 19% but less than 85% oxide equivalent	do.	136,000	3,510	223,000	3,480
Compounds, including oxides, hydroxides, nitrates, other compounds except chlorides	do.	11,400,000	64,100	8,550,000	59,600
Mixtures of REO's except cerium oxide	do.	1,660,000	4,930	640,000	6,320
Metals, whether intermixed or alloyed	do.	804,000	3,500	880,000	4,900
Mixtures of rare-earth chlorides, except cerium chloride	do.	1,310,000	6,870	2,670,000	6,330
Ferrocerium and other pyrophoric alloys	do.	105,000	1,770	130,000	2,050
Rhenium:					
Metal	do.	11,800	12,900	21,800	23,300
Ammonium perrhenate	do.	12,100	7,560	10,300	7,040
Selenium and tellurium:					
Selenium, Se content:					
Selenium	do.	402,000	16,000	575,000	33,900
Dioxide	do.	10,300	293	14,100	1,190
Tellurium, Te content	do.	62,800	2,620	42,200	4,650
Silicon, gross weight:					
Ferrosilicon	metric tons	247,000	201,000	290,000	215,000
Metal	do.	167,000	314,000	157,000	366,000
Silver:					
Ash and residues, Ag content	kilograms	6,710	1,530	2,630	769
Bullion, Ag content	do.	3,410,000	728,000	3,880,000	902,000
Dore, Ag content	do.	346,000	117,000	300,000	89,500
Metal powder, gross weight	do.	27,400	6,920	28,400	6,840
Nitrate, gross weight	do.	--	--	201	30
Ores and concentrates, Ag content	do.	2,220	1,410	433	318
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	do.	52,300	11,900	181,000	39,800
Waste and scrap, gross weight	do.	2,020,000	160,000	3,640,000	126,000
Unwrought, other, gross weight	do.	342,000	69,600	357,000	80,400
Thallium, unwrought powders, waste and scrap, other	do.	325	117	235	33
Thorium and thorium-bearing materials, compounds	do.	5,320	170	4,930	145
Tin, gross weight:					
Compounds	metric tons	635	6,030	564	5,720
Dross, skimmings, scrap, residues, alloys, n.s.p.f.	do.	5,790	24,500	9,930	28,500
Metal, unwrought	do.	47,600	390,000	37,500	285,000
Miscellaneous, includes tinfoil, tin powder, flitters, metallics, manufactures, n.s.p.f.	do.	NA	7,080	NA	8,010
Tinplate and terneplate	do.	328,000	215,000	391,000	300,000
Tinplate scrap	do.	9,650	2,020	16,800	3,160

See footnotes at end of table.

TABLE 8—Continued
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Titanium:					
Concentrate:					
Ilmenite	metric tons	244,000	40,900	154,000	20,400
Rutile, natural and synthetic	do.	360,000	165,000	366,000	158,000
Metal: ³					
Waste and scrap	do.	8,830	53,600	12,400	162,000
Unwrought	do.	11,900	79,900 ^f	15,800	120,000
Ingots	do.	1,530	14,800	2,450	38,700
Billets, bloom, sheet, bar, slab	do.	XX	XX	XX	XX
Powder	do.	142	2,840	126	4,060
Other	do.	959	8,350	1,330	22,900
Wrought products and castings, includes bar, castings, foil, pipe, plate, profile, rod, sheet, strip, tube, wire, other	do.	3,540 ^f	91,500	3,660	111,000
Ferrotitanium and ferrosilicon titanium	do.	6,940	21,200	16,900	76,700
Pigment, dioxide and oxide	do.	264,000	413,000	341,000	578,000
Titaniferous iron ore	do.	68,700	3,650	61,100	3,560
Titaniferous slag	do.	457,000	192,000	667,000	254,000
Tungsten, W content:					
Ammonium paratungstate	do.	2,090	16,500	1,920	29,900
Ferrotungsten and ferrosilicon tungsten	do.	392	3,510	385	5,390
Miscellaneous tungsten-bearing materials, metal powders, carbide powder, unwrought, waste and scrap, wrought, oxides, calcium tungstate, other tungstates, other compounds	do.	5,750	92,400	6,760	164,000
Ores and concentrates	do.	2,310	14,600	2,080	31,400
Vanadium:					
Aluminum-vanadium master alloy, gross weight	kilograms	19,100	67	1,010	15
Ferrovandium, V content	do.	3,020,000 ^f	62,100	11,900,000	131,000
Metal, including waste and scrap, gross weight	do.	31,200	1,710	54,800	3,800
Miscellaneous chemicals, sulfates and vanadates, V content	do.	74,700 ^f	1,150 ^f	85,100	2,800
Pentoxide, anhydride, V content	do.	1,040,000 ^f	8,600	1,370,000	52,900
Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, V ₂ O ₅ content	do.	4,200,000 ^f	11,800	3,020,000	12,400
Other oxides and hydroxides, V content	do.	120,000 ^f	1,650	186,000	6,540
Zinc:					
Compounds, lithopone, chloride, compounds n.s.p.f., hydrosulfite, oxide, sulfate oxide, sulfate	metric tons	137,000	107,000	148,000	150,000
Ores and concentrates, Zn content	do.	231,000	98,700	156,000	117,000
Rolled	do.	2,500	9,250	3,630	11,900
Slab, refined	do.	812,000	888,000	668,000	875,000
Zirconium and hafnium:					
Hafnium, unwrought, including powders	do.	4	895	4	931
Zirconium:					
Ferrozirconium	do.	165	318	306	675
Ores and concentrates	do.	35,200	16,800	38,200	25,700
Oxide, includes germanium oxides and zirconium oxides	do.	3,690	33,000	3,160	33,300
Unwrought powder	do.	75 ^f	2,320	269	6,000
Waste and scrap	do.	722	45,600	755	64,900
Total		XX	69,000,000	XX	43,400,000
Industrial minerals:					
Abrasives, manufactured:					
Aluminum oxide, crude, ground and refined	do.	233,000 ^f	98,300 ^f	244,000	109,000
Metallic abrasives	do.	15,900	9,520	16,500	12,500
Silicon carbide, crude, ground and refined	do.	209,000	119,000	201,000	128,000
Asbestos:					
Chrysotile and other unspecified type	do.	3,450	806	2,530	1,420
Products with basis of asbestos, cellulose, or other minerals		NA	616,000	NA	580,000

See footnotes at end of table.

TABLE 8—Continued
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Industrial minerals—Continued:					
Barite:					
Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate	metric tons	18,200	14,600	14,100	16,
Crude	do.	1,960,000	90,600	2,570,000	137, ¹
Ground	do.	5,100	700	84,000	8, ¹
Other sulfates	do.	33,800	17,800	28,600	16, ¹
Boron minerals and compounds:					
Borax		(2)	62	1	
Boric acid		49	20,300	52	22,
Colemanite		21	6,070	31	8, ¹
Ulexite		110	21,900	103	31, ¹
Bromine:					
Compounds, contained bromine	metric tons	6,600 ^r	13,800 ^r	6,830	16,
Elemental	do.	2,840 ^r	2,070 ^r	2,710	3, ¹
Cement, hydraulic and clinker		27,300	1,140,000	33,700	1,560,
Clays:					
China clay or kaolin	do.	205,000	38,600	262,000	40,
Fire clay	do.	5,920	1,680	429	
Decolorizing earths and fuller's earth	do.	227	48	2,460	
Bentonite	do.	9,340	3,360	10,400	3,
Common blue clay and other ball clay	do.	520	218	667	
Other clay	do.	5,430	3,650	7,630	4, ¹
Chamotte or dina's earth	do.	2	2	3	
Artificially activated clay and activated earth	do.	24,900	14,200	16,000	10,
Diamond, industrial:					
Diamond stones, natural and miners'	thousand carats	1,780	13,800	2,120	29,
Powder, dust and grit, natural and synthetic	do.	240,000	61,200	284,000	77,
Diatomite	metric tons	1,710	488	4,480	1, ¹
Feldspar and nepheline syenite:					
Feldspar	do.	20,600	944	26,200	1, ¹
Nepheline syenite	do.	350,000	29,000	340,000	33,
Fluorspar:					
Aluminum fluoride	do.	4,700	3,750	4,250	4,
Cryolite	do.	3,860	3,660	3,110	3, ¹
Fluorspar	do.	599,000	95,300	629,000	122, ¹
Hydrofluoric acid, HF	do.	128,000	131,000	137,000	138, ¹
Garnet, industrial ^e		37	4,260	42	5, ¹
Gemstones		XX	15,500,000	XX	17,200,
Graphite:					
Natural	metric tons	63,700	29,900	64,500	34, ¹
Electric furnace electrodes	do.	86,400	144,000	81,200	157, ¹
Gypsum:					
Crude		10,100	97,200	11,200	113, ¹
Plasters		5	3,420	6	4,
Boards		617	87,100	739	129, ¹
Other		XX	43,200	XX	41,
Iodine:					
Crude	metric tons	5,700	75,300	6,250	105, ¹
Potassium iodide	do.	678 ^r	11,500	458	9, ¹
Iron oxide pigments:					
Natural	do.	4,100	2,100	5,230	2, ¹
Synthetic	do.	166,000	114,000	188,000	138, ¹
Kyanite, andalusite, sillimanite	do.	4,010	1,420	6,300	2, ¹
Lime		232	25,900	310	33, ¹
Lithium chemicals:					
Carbonate	metric tons	15,400	26,500	18,900	27,
Hydroxide	do.	64	233	124	

See footnotes at end of table.

TABLE 8—Continued
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2004		2005		
	Quantity	Value	Quantity	Value	
Industrial minerals—Continued:					
Magnesium compounds:					
Compounds, chlorides, hydroxide, peroxide, sulfates	metric tons	132,000	40,600	119,000	34,800
Magnesite, crude and processed:					
Caustic-calcined magnesia	do.	157,000	22,200	152,000	23,900
Dead-burned and fused magnesia	do.	418,000	109,000	478,000	124,000
Other magnesia	do.	15,700	10,800	18,300	11,300
Crude	do.	15,900	1,980	15,000	2,260
Mica:					
Scrap and flake:					
Powder	do.	22,300	10,800	21,400	10,100
Waste	do.	1,420 ^r	659 ^r	900	365
Sheet:					
Unworked, excludes unworked sheet mica valued at less than \$1 per kilogram	do.	124	358	53	202
Worked	do.	1,280	11,800	1,340	12,900
Nitrogen, major compounds, gross weight ³		16,000	3,580,000	18,000	4,670,000
Peat moss	metric tons	786,000	159,000	891,000	195,000
Perlite, processed crude	do.	238,000	9,660	196,000	7,970
Phosphate rock and phosphatic materials		2,690	178,000	2,730	203,000
Potash, chloride, sulfate, nitrate, sodium nitrate mixtures	metric tons	8,140,000	751,000 ^r	8,110,000	1,170,000
Pumice:					
Crude or unmanufactured		401	31,400	239	31,800
Wholly or partially manufactured		1	3,660	1	5,750
Salt		11,900	159,000	12,100	180,000
Sand and gravel:					
Construction		4,760	56,900	7,160	86,800
Industrial		490	12,400	711	18,200
Silica, special stone products		NA	6,800	NA	7,700
Soda ash		6	1,880	8	2,460
Stone:					
Crushed, chips, calcium carbonate fines, excludes precipitated carbonates		18,600 ^r	179,000 ^r	21,000	194,000
Dimension		NA	1,790,000	NA	2,180,000
Strontium:					
Carbonate	metric tons	23,600	8,430	17,900	6,930
Celestite	do.	6,290	332	1,820	98
Metal	do.	217	1,070	770	2,210
Nitrate	do.	527	798	714	637
Oxide, hydroxide, peroxide	do.	98	76	9	38
Sulfur:					
Elemental		2,850 ^e	76,800	2,820 ^e	70,500
Sulfuric acid, 100% H ₂ SO ₄	metric tons	2,400,000	104,000	2,680,000	122,000
Talc		226	58,400	237	55,600
Vermiculite ^e		69	13,000	91	17,000
Wollastonite ^e	metric tons	4,500	563	6,000	750
Total		XX	26,100,000	XX	30,600,000
Grand total		XX	95,100,000	XX	73,900,000

^eEstimated. ^rRevised. NA Not available. XX Not applicable. -- Zero.

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

²Less than ½ unit.

³Category regrouped in 2004; see commodity chapter for details.

TABLE 9
WORLD AND U.S. PRODUCTION OF SELECTED NONFUEL MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Mineral or product	World total					United States		
	2001	2002	2003	2004	2005	2005	Percentage of world total	
Metals:								
Aluminum ²		24,300	26,100	28,000 ^r	29,900 ^r	31,900	2,480	7.8
Antimony	metric tons	157,000	114,000 ^r	115,000 ^r	129,000 ^r	139,000	--	--
Arsenic trioxide ³	do.	63,000 ^r	62,500 ^r	62,400 ^r	52,700 ^r	52,500	--	--
Bauxite ^{3,4,5}		137,000	144,000	153,000 ^r	160,000 ^r	169,000	NA	NA
Beryl ³	metric tons	2,990	2,540	2,690 ^r	2,770 ^r	3,440	2,780	80.8
Bismuth, refinery	do.	5,820 ^r	6,730 ^r	8,740 ^r	10,500 ^r	11,900	--	--
Cadmium, refinery	do.	20,000 ^r	18,000 ^r	18,500	18,700 ^r	19,400	1,065	5.5
Chromite ³		12,200 ^r	14,600 ^r	15,400 ^r	17,700 ^r	19,300	--	--
Cobalt, Co content:								
Mine	metric tons	44,800 ^r	50,600 ^r	50,800 ^r	57,100 ^r	57,900	--	--
Refinery	do.	38,700 ^r	40,800 ^r	43,800	49,100	54,900	--	--
Columbium (niobium)-tantalum concentrates ³	do.	76,600	81,200	80,800	67,500 ^r	67,200	--	--
Copper:								
Mine		13,700	13,700	13,700	14,700 ^r	15,100	1,140	7.6
Refinery		15,700 ^r	15,500 ^r	15,300 ^r	15,900 ^r	16,600	1,260	7.6
Gold	kilograms	2,560,000	2,550,000	2,560,000 ^r	2,440,000 ^r	2,470,000	256,000	10.4
Iron ore ³		1,050,000 ^r	1,100,000 ^r	1,220,000 ^r	1,360,000 ^r	1,530,000	54,400	3.5
Iron and steel:								
Direct-reduced iron ²		39,000 ^r	43,700 ^r	45,300 ^r	48,000 ^r	49,200	220	0.4
Pig iron ²		585,000	610,000	666,000 ^r	713,000 ^r	789,000	37,200	4.7
Raw steel		853,000	906,000	972,000	1,060,000 ^r	1,120,000	93,300	8.3
Lead:								
Mine	metric tons	3,050,000 ^r	2,840,000 ^r	3,140,000	3,110,000	3,270,000	426,000	13.0
Refinery	do.	6,600,000 ^r	6,780,000 ^r	6,780,000 ^r	6,950,000 ^r	7,470,000	1,280,000	17.2
Magnesium ⁵	do.	420,000 ^r	440,000 ^r	485,000 ^r	595,000 ^r	626,000	W	NA
Manganese ore ³		20,900	22,200	24,100	27,700 ^r	29,100	--	--
Mercury ⁵	metric tons	1,500	1,490	1,370 ^r	1,890 ^r	1,680	NA	NA
Molybdenum, Mo content	do.	133,000 ^r	122,000 ^r	131,000 ^r	159,000 ^r	185,000	58,000	31.3
Nickel, Ni content:								
Mine	do.	1,350,000	1,350,000 ^r	1,370,000 ^r	1,400,000 ^r	1,480,000	--	--
Refinery	do.	1,190,000 ^r	1,200,000 ^r	1,220,000	1,270,000 ^r	1,300,000	--	--
Platinum-group metals	kilograms	410,000 ^r	430,000 ^r	465,000 ^r	492,000 ^r	515,000	17,200	3.3
Selenium ^{2,5}	do.	1,420,000 ^r	1,370,000 ^r	1,440,000 ^r	1,330,000	1,390,000	W	NA
Silver	metric tons	18,700 ^r	18,800 ^r	18,800 ^r	19,800 ^r	20,200	1,230	6.1
Tellurium ^{2,5}	kilograms	109,000	89,300	95,200	124,000 ^r	119,000	W	NA
Tin:								
Mine	metric tons	246,000 ^r	233,000 ^r	258,000 ^r	298,000 ^r	292,000	--	--
Smelter ⁶	do.	289,000 ^r	280,000	280,000	309,000	349,000	11,800	3.4
Tungsten, W content	do.	50,800 ^r	66,100 ^r	68,200 ^r	69,400 ^r	70,100	--	--
Zinc:								
Mine	do.	8,930,000 ^r	8,550,000 ^r	9,470,000 ^r	9,460,000 ^r	9,800,000	748,000	7.6
Smelter		9,320 ^r	9,720 ^r	9,900 ^r	10,400 ^r	10,700	309	2.9
Industrial minerals:								
Asbestos	metric tons	2,060,000 ^r	2,320,000 ^r	2,360,000 ^r	2,360,000 ^r	2,400,000	--	--
Barite	do.	6,780,000 ^r	6,490,000 ^r	6,790,000 ^r	7,440,000 ^r	7,870,000	489,000 ⁷	6.2
Boron minerals	do.	4,730,000	4,590,000 ^r	4,730,000 ^r	5,070,000 ^r	4,910,000	1,150,000 ⁷	23.4
Bromine	thousand kilograms	509,000 ^r	503,000 ^r	488,000 ^r	544,000 ^r	555,000	226,000 ⁷	40.8
Celesite	metric tons	399,000 ^r	435,000	471,000	457,000 ^r	494,000	--	--
Cement, hydraulic		1,740,000 ^r	1,850,000	2,030,000 ^r	2,190,000 ^r	2,310,000	100,900 ⁸	4.4
Clays:								
Bentonite		10,400	10,300	10,500 ^r	11,500 ^r	11,700	4,710	40.3
Fuller's earth	metric tons	4,600,000	5,520,000 ^r	6,280,000 ^r	5,890,000 ^r	5,610,000	2,990,000	53.3
Kaolin		44,900 ^r	43,000 ^r	44,100 ^r	44,200 ^r	44,700	7,800	17.5
Diamond, natural	thousand carats	127,000	141,000 ^r	158,000 ^r	182,000 ^r	183,000	--	--
Diatomite	metric tons	2,000,000 ^r	1,950,000 ^r	1,950,000 ^r	1,950,000 ^r	2,020,000	653,000 ⁷	32.3

See footnotes at end of table.

TABLE 9—Continued
WORLD AND U.S. PRODUCTION OF SELECTED NONFUEL MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Mineral or product		World total					United States	
		2001	2002	2003	2004	2005	2005	Percentage of world total
Industrial minerals—Continued:								
Feldspar		11,800 ^r	12,000 ^r	12,200 ^r	12,600 ^r	12,900	748	5.8
Fluorspar	metric tons	4,600,000 ^r	4,430,000 ^r	4,910,000 ^r	5,220,000 ^r	5,260,000	--	--
Graphite, natural	do.	816,000 ^r	932,000 ^r	999,000 ^r	1,020,000 ^r	1,050,000	--	--
Gypsum		105,000	107,000 ^r	110,000 ^r	112,000 ^r	118,000	21,100	17.9
Iodine, crude	thousand kilograms	20,700	21,000	22,900 ^r	24,800 ^r	25,400	1,570	6.2
Lime		121,000	120,000 ^r	125,000 ^r	127,000 ^r	127,000	20,000 ^{7,8}	15.7
Magnesite, crude ⁵		11,100	13,600	14,000	14,700 ^r	14,300	W	NA
Mica, including scrap and flake ⁹	metric tons	368,000	269,000	271,000 ^r	319,000 ^r	294,000	78,100	26.6
Nitrogen, N content of ammonia		105,000	109,000	110,000	117,000	121,000	8,040 ¹⁰	6.6
Peat		23,200 ^r	26,200 ^r	25,200 ^r	26,400 ^r	26,400	685	2.6
Perlite	metric tons	1,730,000	1,810,000 ^r	1,810,000 ^r	1,860,000 ^r	1,950,000	508,000 ⁷	26.1
Phosphate rock ³		126,000	135,000	138,000 ^r	141,000	147,000	36,100	24.5
Potash, K ₂ O equivalent		26,400	26,800 ^r	28,400	30,400 ^r	31,100	1,200	3.9
Pumice		15,600 ^r	16,200 ^r	16,600 ^r	17,700 ^r	17,500	1,270 ⁷	7.2
Salt		214,000 ^r	212,000 ^r	218,000 ^r	229,000 ^r	238,000	45,200 ⁸	19.0
Sand and gravel, industrial, silica		113,000 ^r	113,000	115,000 ^r	117,000 ^r	118,000	30,600 ⁷	25.9
Soda ash, natural and manufactured		35,700 ^r	37,200 ^r	38,400 ^r	40,300 ^r	41,900	11,000 ¹¹	26.2
Sulfur, all forms		61,400 ^r	62,600 ^r	64,200 ^r	66,000 ^r	66,000	9,460	14.3
Talc and pyrophyllite ¹²	metric tons	8,780,000 ^r	7,590,000 ^r	8,100,000 ^r	8,230,000 ^r	8,250,000	856,000	10.4
Titanium concentrates: ³								
Ilmenite and leucoxene	do.	5,130,000 ^r	5,470,000 ^r	5,720,000 ^r	5,640,000	5,840,000	500,000 ¹³	8.6
Rutile ⁵	do.	421,000	446,000	361,000	354,000 ^r	369,000	(14)	NA
Vermiculite	do.	431,000	497,000 ^r	491,000	516,000 ^r	527,000	100,000	19.0

^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data; not included in "World" total. -- Zero.

¹Data are rounded to no more than three significant digits.

²Primary.

³Gross weight.

⁴Individual country figures that are included in the world total represent dried bauxite equivalent of crude ore, but for some countries available data are insufficient to permit this adjustment.

⁵"World total" for years listed does not include U.S. production.

⁶Includes tin content of alloys made directly from ore.

⁷Quantity sold or used by producers.

⁸Includes Puerto Rico.

⁹Excludes, if any, U.S. production of low-quality sericite and sheet mica.

¹⁰Synthetic anhydrous ammonia; excludes coke oven byproduct ammonia.

¹¹U.S. production is natural only.

¹²Data for the United States exclude proprietary pyrophyllite production.

¹³Includes rutile to avoid disclosing company proprietary data. Rounded to one significant digit.

¹⁴Included with ilmenite to avoid disclosing company proprietary data; not included in "Total."