



2006 Minerals Yearbook

STATISTICAL SUMMARY

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The world production table was prepared by Glenn J. Wallace, international data coordinator.

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,

¹ The 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 2006 U.S. Geological Survey (USGS) mineral production data published in this chapter are as of July 2008. 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 2006 increased to \$66.5 billion, which was an increase of more than 20% compared with that of 2005; metals increased to \$23.3 billion, which was a increase of more than 41%; and industrial minerals increased to \$43.2 billion, more than 11%.

In 2006, 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), zinc, lime, salt, and soda ash. They accounted for more than 86% of the U.S. total production value (table 1).

In 2006, the value of nonfuel mineral commodity production in the following 22 States, in descending order of production value, was greater than \$1 billion: Arizona, Nevada, California, Utah, Florida, Alaska, Texas, Minnesota, Georgia, Missouri, Michigan, Pennsylvania, Colorado, Wyoming, New Mexico, Alabama, New York, Virginia, Ohio, Illinois, Montana, and North Carolina. They accounted for more than 80% 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	2004		2005		2006		
	Quantity	Value	Quantity	Value	Quantity	Value	
Metals:							
Beryllium concentrates	metric tons	2,210	NA	2,780	NA	3,830	NA
Copper ³		1,160	3,420,000	1,140	4,360,000	1,200	8,310,000
Gold ³	kilograms	258,000	3,400,000	256,000	3,670,000	252,000	4,910,000
Iron ore, usable shipped		54,900	2,080,000	53,200	2,370,000	52,700	2,840,000
Lead ³	metric tons	430,000	523,000	426,000	574,000	419,000	715,000
Mercury ^{c,4}		NA	NA	NA	NA	NA	NA
Molybdenum concentrates ^{5,6}	metric tons	42,000	1,420,000	58,000	3,660,000	59,900	3,040,000
Palladium ³	kilograms	13,700	102,000	13,300	87,100	14,400	150,000
Platinum ³	do.	4,040	110,000	3,920	113,000	4,290	158,000
Silver ³	do.	1,250,000	268,000	1,230,000	289,000	1,140,000	425,000
Zinc ³	metric tons	715,000	827,000	720,000	1,070,000	699,000	2,450,000
Combined values of cadmium (byproduct in zinc concentrates), ⁷ iron oxide pigments (crude), magnesium metal, titanium concentrates, zirconium concentrates							
		XX	304,000	XX	317,000 ^r	XX	289,000
Total		XX	12,500,000	XX	16,500,000	XX	23,300,000
Industrial minerals, excluding fuels:⁸							
Barite		532	18,700	489	17,600	589	23,500
Boron		1,210	626,000	1,150	713,000	(9)	W
Bromine	metric tons	222,000	191,000	226,000	168,000	243,000	339,000
Cement:¹⁰							
Masonry		5,000	585,000 ^e	5,420	679,000 ^e	5,400	743,000 ^e
Portland		92,400	7,110,000 ^e	93,900	8,360,000 ^e	92,800	9,230,000 ^e
Clays:							
Ball		1,220	54,100	1,210	52,900	1,190	53,400
Bentonite		4,060	179,000	4,710	215,000	4,940	234,000
Common		24,600	174,000 ^r	24,300	176,000	24,200	243,000
Fire		256	7,870	353	10,700	848	19,000
Fuller's earth		3,260	329,000	2,730 ^r	275,000 ^r	2,540	243,000
Kaolin		7,760	945,000	7,800	860,000	7,470	980,000
Diatomite		620	177,000	653	179,000	799	176,000
Feldspar ¹⁰		770	44,200	750	43,000	760	44,600
Garnet, industrial ¹⁰	metric tons	28,400	3,050	40,100 ^r	3,840	34,100	4,230
Gemstones, natural ¹⁰		NA	14,500	NA	13,400	NA	11,300
Gypsum, crude ¹⁰		17,200	124,000	21,100	158,000	21,100	192,000
Helium:							
Crude	million cubic meters	57	77,500	42	63,300	41	66,000
Grade-A	do.	130	299,000	133	336,000	139	395,000
Iodine ¹⁰	metric tons	1,130	W	1,570	W	(9)	W
Kyanite ^c		90	13,400	90	13,400	90	14,000
Lime		20,000	1,370,000	20,000	1,500,000	21,000	1,700,000
Mica, crude	metric tons	99,200	15,400	78,100	19,300 ^r	110,000	22,400
Peat ¹¹		741	21,200	751	20,800	734	20,100
Perlite, crude	metric tons	508,000	20,600	508,000	20,700	454,000	19,500
Phosphate rock, marketable ¹⁰		35,800	995,000	36,100	1,070,000	30,100	919,000
Potash, gross weight		2,700	340,000	2,500	410,000	2,400	410,000
Pumice and pumicite	metric tons	1,490,000	25,000	1,270,000	39,300	1,540,000	44,300
Salt		45,000	1,270,000	45,000	1,310,000	44,300	1,370,000
Sand and gravel:							
Construction		1,240,000	6,590,000	1,280,000 ^r	7,500,000 ^r	1,320,000	8,540,000
Industrial		29,700	685,000	30,600	752,000	31,700	807,000
Silica stone ¹²	metric tons	655	3,660	576	2,290	227	992
Soda ash ⁹		11,000	770,000	11,000	968,000	11,000	1,170,000
Stone, crushed ¹³		1,630,000 ^r	9,890,000 ^r	1,700,000 ^r	12,400,000 ^r	1,720,000	13,800,000
Talc, crude ¹⁰		833	23,200	856	24,400	895	27,400
Tripoli ^{9,10}	metric tons	94,000	19,400	91,100	18,700	76,000	17,500
Vermiculite, concentrate ^c		100	W	100	W	100	W

See footnotes at end of table.

TABLE 1—Continued
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES¹

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Industrial minerals, excluding fuels--Continued:						
Combined values of brucite, greensand marl, lithium carbonate, magnesite, magnesium compounds, olivine, pyrophyllite (crude), staurolite, stone (dimension), wollastonite, zeolites, and values indicated by symbol W	XX	507,000 ^r	XX	531,000 ^r	XX	1,280,000
Total	XX	33,500,000 ^r	XX	38,900,000 ^r	XX	43,200,000
Grand total	XX	46,000,000 ^r	XX	55,400,000 ^r	XX	66,500,000

⁶Estimated. ^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 no more than three significant digits; may not add to totals shown.

³Recoverable content of ores, etc.

⁴Secondary production.

⁵Content of ore and concentrate.

⁶Shipments.

⁷Data not available for 2006.

⁸Sold or used unless otherwise specified.

⁹Withheld to avoid disclosing company proprietary data.

¹⁰Production.

¹¹Excludes attapulgite.

¹²Includes grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

¹³Excludes 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 2006

(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	
Cement:		
Masonry	FL, CA, SC, AL, IN	AR, AZ, CO, GA, IA, KS, KY, MD, ME, MI, MO, MT, NE, NM, NY, OH, OK, PA, TN, TX, VA, WV.
Portland	TX, CA, PA, FL, MI	All other States, except AK, CT, DE, HI, LA, MA, MN, NC, ND, NH, NJ, RI, VT, WI.
Clays:		
Ball	TN, TX, MS, KY, IN	
Bentonite	WY, MT, AL, MS, UT	AZ, CA, CO, NV, OR, TX.
Common	TX, NC, AL, OH, GA	All other States, except AK, DE, HI, ID, NH, NV, RI, VT, WI.
Fire	MO, CA, OH, SC, AL	WA.
Fuller's earth	GA, MO, MS, VA, FL	CA, IL, KS, NV, TN, TX.
Kaolin	GA, SC, AR, AL, CA	FL, NC, NV, 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, OR, AZ, CA, AR	All other States.
Gold ¹	NV, UT, AK, CO, MT	AZ, CA, ID, NM, SD.
Greensand marl	NJ	
Gypsum, crude	OK, IA, NV, CA, AR	AZ, CO, IN, KS, LA, MI, NM, NY, SD, TX, UT, WY.
Helium:		
Crude	KS and TX	
Grade-A	KS, WY, TX, OK, CO	NM and UT.
Iodine, crude	OK	
Iron ore, usable	MN, MI, SD, CA	
Iron oxide pigments, crude	GA, AL, VA	
Kyanite	VA	
Lead ¹	MO, AK, ID, WA, MT	
Lime	MO, AL, KY, OH, TX	All other States, except AK, CT, DE, HI, KS, MD, ME, MS, NC, NH, NJ, NY, RI, SC, VT.
Lithium carbonate	NV	
Magnesite	NV	
Magnesium compounds	MI, UT, FL, DE, CA	
Magnesium metal	UT	
Mica, crude	NC, SD, AL, SC, GA	
Molybdenum, concentrates	UT, CO, AZ, ID, MT	NM and NV.
Olivine	WA	
Palladium ¹	MT	
Peat	FL, MN, NY, IL, MI	IA, IN, ME, NJ, OH, PA, WA, WI, WV.
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, ID, NM	KS and NV.
Pyrophyllite, crude	NC	
Salt	LA, TX, NY, OH, UT	AL, AZ, CA, KS, MI, NM, NV, OK, TN, WV.
Sand and gravel:		
Construction	CA, TX, AZ, MI, MN	All other States.
Industrial	IL, FL, WI, CA, OK	All other States, except AK, CT, DE, HI, KY, MA, MD, ME, MT, NE, NH, OR, SD, UT, VT, WY.
Silica stone ³	AR	
Silver ¹	AK, NV, ID, UT, MT	AZ, CA, CO, MO, NM.
Soda ash	WY and CA	
Staurolite	FL	
Stone:		
Crushed	TX, FL, PA, GA, MO	All other States.
Dimension	WI, IN, VT, MA, GA	All other States, except AK, DE, FL, HI, IA, IL, KY, LA, MS, ND, NE, NJ, NV, OR, RI, WY.

See footnotes at end of table

TABLE 2—Continued
 NONFUEL MINERALS PRODUCED IN THE UNITED STATES, BY COMMODITY AND STATES IN 2006

(Principal States based upon quantity unless otherwise noted)

Mineral	Principal States	Other States (alphabetical order)
Talc, crude	MT, TX, VT, NY, CA	OR and VA.
Titanium concentrates:		
Ilmenite	VA, FL	
Rutile	FL	
Tripoli	IL, OK, AR, PA	
Vermiculite, crude	SC and VA	
Wollastonite	NY	
Zeolites	NM, TX, ID, AZ, NV	CA and WY.
Zinc ¹	AK, MO, WA, NY, 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 2006¹

State	Value (thousands)	Rank	Percentage of U.S. total	Principal minerals, in order of value
Alabama	\$1,360,000	16	2.04	Cement (portland), stone (crushed), lime, sand and gravel (construction), cement (masonry).
Alaska	3,010,000	6	4.53	Zinc, gold, lead, silver, sand and gravel (construction).
Arizona	6,740,000	1	10.13	Copper, molybdenum concentrates, sand and gravel (construction), cement (portland), stone (crushed).
Arkansas	789,000	28	1.19	Bromine, stone (crushed), cement (portland), sand and gravel (construction), lime.
California	4,590,000	3	6.91	Sand and gravel (construction), cement (portland), boron minerals, stone (crushed), soda ash.
Colorado	1,680,000	13	2.52	Molybdenum concentrates, sand and gravel (construction), cement (portland), gold, stone (crushed).
Connecticut ²	168,000	42	0.25	Stone (crushed), sand and gravel (construction), stone (dimension), clays (common), gemstones (natural).
Delaware ²	22,400	50	0.03	Sand and gravel (construction), magnesium compounds, stone (crushed), gemstones (natural).
Florida	3,220,000	5	4.85	Stone (crushed), phosphate rock, cement (portland), sand and gravel (construction), cement (masonry).
Georgia	2,080,000	9	3.13	Clays (kaolin), stone (crushed), cement (portland), sand and gravel (construction), clays (fuller's earth).
Hawaii	145,000	44	0.22	Stone (crushed), sand and gravel (construction), gemstones (natural).
Idaho	797,000	27	1.20	Molybdenum (concentrates), sand and gravel (construction), phosphate rock, silver, stone (crushed).
Illinois	1,220,000	20	1.84	Stone (crushed), cement (portland), sand and gravel (construction), sand and gravel (industrial), lime.
Indiana	982,000	23	1.48	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Iowa	696,000	31	1.05	Stone (crushed), cement (portland), sand and gravel (construction), gypsum (crude), lime.
Kansas	973,000	24	1.46	Cement (portland), helium (Grade-A), stone (crushed), salt, sand and gravel (construction).
Kentucky	806,000	26	1.21	Stone (crushed), lime, cement (portland), sand and gravel (construction), clays (common).
Louisiana	481,000	37	0.72	Sand and gravel (construction), salt, stone (crushed), clays (common), sand and gravel (industrial).
Maine	158,000	43	0.24	Sand and gravel (construction), cement (portland), stone (crushed), stone (dimension), cement (masonry).
Maryland ²	653,000	33	0.98	Stone (crushed), cement (portland), sand and gravel (construction), cement (masonry), stone (dimension).
Massachusetts ²	294,000	38	0.44	Stone (crushed), sand and gravel (construction), lime, stone (dimension), clays (common).
Michigan	1,930,000 *	11	2.90 *	Iron ore (usable shipped), cement (portland), sand and gravel (construction), salt, stone (crushed).
Minnesota ²	2,540,000	8	3.83	Iron ore (usable shipped), sand and gravel (construction), stone (crushed), sand and gravel (industrial), stone (dimension).
Mississippi	270,000	39	0.41	Sand and gravel (construction), stone (crushed), cement (portland), clays (fuller's earth), clays (ball).
Missouri	2,070,000	10	3.11	Stone (crushed), cement (portland), lead, lime, zinc.
Montana	1,070,000	21	1.60	Copper, molybdenum (concentrates), platinum metal, palladium metal, sand and gravel (construction).
Nebraska ²	129,000	45	0.19	Cement (portland), stone (crushed), sand and gravel (construction), lime, cement (masonry).
Nevada	5,140,000	2	7.73	Gold, copper, sand and gravel (construction), silver, lime.
New Hampshire ²	112,000	46	0.17	Sand and gravel (construction), stone (crushed), stone (dimension), gemstones (natural).
New Jersey ²	547,000	35	0.82	Stone (crushed), sand and gravel (construction), sand and gravel (industrial), greensand marl, peat.
New Mexico	1,470,000	15	2.22	Copper, potash, sand and gravel (construction), molybdenum (concentrates), cement (portland).
New York	1,330,000	17	2.00	Stone (crushed), cement (portland), salt, sand and gravel (construction), zinc.
North Carolina ²	1,020,000	22	1.54	Stone (crushed), phosphate rock, sand and gravel (construction), sand and gravel (industrial), clays (common).
North Dakota ²	44,400	48	0.07	Sand and gravel (construction), lime, stone (crushed), clays (common), sand and gravel (industrial).
Ohio	1,270,000	19	1.91	Stone (crushed), sand and gravel (construction), salt, lime, cement (portland).
Oklahoma	684,000	32	1.03	Stone (crushed), cement (portland), sand and gravel (construction), iodine, sand and gravel (industrial).
Oregon	509,000	36	0.77	Stone (crushed), sand and gravel (construction), cement (portland), diatomite, perlite (crude).
Pennsylvania ²	1,710,000	12	2.58	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Rhode Island ²	43,700	49	0.07	Sand and gravel (construction), stone (crushed), sand and gravel (industrial), gemstones (natural).
South Carolina	735,000	29	1.11	Cement (portland), stone (crushed), cement (masonry), sand and gravel (construction), sand and gravel (industrial).
South Dakota	223,000	41	0.34	Cement (portland), sand and gravel (construction), stone (crushed), stone (dimension), gold.
Tennessee	856,000	25	1.29	Stone (crushed), cement (portland), sand and gravel (construction), clays (ball), sand and gravel (industrial).
Texas	2,980,000	7	4.49	Cement (portland), stone (crushed), sand and gravel (construction), salt, lime.
Utah	3,960,000	4	5.96	Copper, molybdenum (concentrates), gold, sand and gravel (construction), cement (portland).
Vermont ²	84,200	47	0.13	Stone (crushed), sand and gravel (construction), stone (dimension), talc (crude), gemstones (natural).
Virginia	1,270,000	18	1.92	Stone (crushed), cement (portland), sand and gravel (construction), lime, zirconium (concentrates).
Washington	718,000	30	1.08	Sand and gravel (construction), stone (crushed), zinc, cement (portland), lime.
West Virginia	230,000	40	0.35	Stone (crushed), cement (portland), lime, sand and gravel (industrial), cement (masonry).
Wisconsin ²	566,000	34	0.85	Stone (crushed), sand and gravel (construction), sand and gravel (industrial), lime, stone (dimension).
Wyoming	1,590,000	14	2.40	Soda ash, clays (bentonite), helium (Grade-A), sand and gravel (construction), stone (crushed).
Undistributed	502,000 *	XX	0.75 *	
Total	66,500,000	XX	100.00	

See footnotes of end at table.

TABLE 3—Continued

VALUE OF NONFUEL MINERAL PRODUCTION IN THE UNITED STATES AND PRINCIPAL NONFUEL MINERALS PRODUCED IN 2006¹

XX Not applicable.

¹Data are rounded to no more than 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."

*Correction posted on July 14, 2009.

TABLE 4
VALUE OF NONFUEL MINERAL PRODUCTION PER CAPITA AND PER SQUARE KILOMETER IN 2006 BY STATE¹

State	Land area (square kilometers)	Population (thousands)	Total value (thousands)	Per capita		Per square kilometer	
				Dollars	Rank	Dollars	Rank
Alabama	131,000	4,600	\$1,360,000	\$295	13	\$10,300	20
Alaska	1,480,000	670	3,010,000	4,490	1	2,030	46
Arizona	294,000	6,170	6,740,000	1,090	6	22,900	4
Arkansas	135,000	2,810	789,000	281	15	5,850	29
California	404,000	36,500	4,590,000	126	31	11,400	17
Colorado	269,000	4,750	1,680,000	353	11	6,240	28
Connecticut	12,500	3,510	168,000 ²	48	47	13,400	11
Delaware	5,060	853	22,400 ²	26	50	4,420	34
Florida	140,000	18,100	3,220,000	178	21	23,100	3
Georgia	150,000	9,360	2,080,000	222	17	13,900	10
Hawaii	16,600	1,290	145,000	113	35	8,710	22
Idaho	214,000	1,470	797,000	543	8	3,720	40
Illinois	144,000	12,800	1,220,000	95	40	8,500	23
Indiana	92,900	6,310	982,000	156	24	10,600	19
Iowa	145,000	2,980	696,000	234	16	4,810	31
Kansas	212,000	2,760	973,000	352	12	4,590	33
Kentucky	103,000	4,210	806,000	192	18	7,840	26
Louisiana	113,000	4,290	481,000	112	37	4,260	36
Maine	79,900	1,320	158,000	119	32	1,970	47
Maryland	25,300	5,620	653,000 ²	116	33	25,800	2
Massachusetts	20,300	6,440	294,000 ²	46	48	14,500	9
Michigan	147,000	10,100	1,930,000 [*]	191	20	13,100	12
Minnesota	206,000	5,170	2,540,000 ²	492	9	12,300	14
Mississippi	121,000	2,910	270,000	93	41	2,220	44
Missouri	178,000	5,840	2,070,000	354	10	11,600	16
Montana	377,000	945	1,070,000	1,130	5	2,830	43
Nebraska	199,000	1,770	129,000 ²	73	43	648	49
Nevada	284,000	2,500	5,140,000	2,060	3	18,100	6
New Hampshire	23,200	1,320	112,000 ²	86	42	4,840	30
New Jersey	19,200	8,730	547,000 ²	63	46	28,500	1
New Mexico	314,000	1,960	1,470,000	754	7	4,690	32
New York	122,000	19,300	1,330,000	69	45	10,900	18
North Carolina	126,000	8,860	1,020,000 ²	115	34	8,100	24
North Dakota	179,000	636	44,400 ²	70	44	249	50
Ohio	106,000	11,500	1,270,000	111	38	12,000	15
Oklahoma	178,000	3,580	684,000	191	19	3,850	39
Oregon	249,000	3,700	509,000	137	27	2,050	45
Pennsylvania	116,000	12,400	1,710,000 ²	138	26	14,800	8
Rhode Island	2,710	1,070	43,700 ²	41	49	16,200	7
South Carolina	78,000	4,320	735,000	170	22	9,430	21
South Dakota	197,000	782	223,000	286	14	1,140	48
Tennessee	107,000	6,040	856,000	142	25	8,020	25
Texas	678,000	23,500	2,980,000	127	29	4,400	35
Utah	213,000	2,550	3,960,000	1,550	4	18,600	5
Vermont	24,000	624	84,200 ²	135	28	3,520	42
Virginia	103,000	7,640	1,270,000	167	23	12,400	13
Washington	172,000	6,400	718,000	112	36	4,170	37
West Virginia	62,400	1,820	230,000	126	30	3,690	41
Wisconsin	141,000	5,560	566,000 ²	102	39	4,030	38
Wyoming	251,000	515	1,590,000	3,090	2	6,340	27
Undistributed	XX	XX	502,000 [*]	XX	XX	XX	XX
Total or average	9,160,000 ³	299,000 ³	66,500,000	223	XX	7,260	XX

XX Not applicable.

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

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

³Excludes Washington, DC (which has no mineral production), with an area of 179 square kilometers and a population of 582,000.

^{*}Correction posted on July 14, 2009.

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Alabama:						
Cement:						
Masonry	430	49,400 ^e	475	54,800 ^e	526	66,500 ^e
Portland	4,800	320,000 ^e	5,120	421,000 ^e	5,200	468,000 ^e
Clays:						
Bentonite	100	3,050	109	W	(3)	W
Common	2,120	29,600	2,280	29,000	2,210	38,800
Gemstones, natural	NA	356	NA	371	NA	398
Lime	2,280	164,000	2,240	181,000	2,450	224,000
Sand and gravel:						
Construction	14,700	65,300	15,700	70,500	20,100	96,000
Industrial	643	9,800	710	11,200	474	18,700
Stone:						
Crushed	47,800	296,000	50,300 ^r	329,000 ^r	55,400	365,000
Dimension	(3)	W	(3)	W	4	3,630
Combined values of clays (fire, kaolin), iron oxide pigments (crude), mica [crude (2005-06)], salt, stone [dimension (2004-05)] marble and sandstone), and values indicated by symbol W						
	XX	27,000	XX	30,500 ^r	XX	76,000
Total	XX	965,000	XX	1,130,000^r	XX	1,360,000
Alaska:						
Gemstones, natural	NA	12	NA	12	NA	13
Sand and gravel, construction	9,430	51,600	15,100 ^r	80,600 ^r	13,200	68,400
Stone, crushed	2,270	14,200	2,430 ^r	16,000 ^r	893 ⁴	7,330 ⁴
Combined values of cadmium (byproduct of zinc concentrates), ⁵ gold, lead, silver, stone [crushed limestone (2006)], zinc						
	XX	1,200,000	XX	1,410,000	XX	2,930,000
Total	XX	1,270,000	XX	1,500,000	XX	3,010,000
Arizona:						
Clays, bentonite	(3)	W	33	1,670	34	1,710
Copper ⁶	723	2,130,000	690	2,640,000	712	4,950,000
Gemstones, natural	NA	1,450	NA	1,370	NA	1,560
Sand and gravel:						
Construction	79,600	430,000	84,900	516,000	94,000	662,000
Industrial	(3)	792	(3)	W	(3)	W
Stone, crushed	14,100	75,900	12,100 ^{r,4}	72,400 ^{r,4}	13,200	102,000
Combined values of cement, clays (common), gold gypsum (crude), lime, molybdenum concentrates, perlite (crude), pumice and pumicite, salt, silver, stone [crushed traprock (2005), dimension sandstone], zeolites, and values indicated by symbol W						
	XX	709,000	XX	1,120,000	XX	1,020,000
Total	XX	3,350,000	XX	4,350,000	XX	6,740,000
Arkansas:						
Clays, common	1,150	1,510	1,210	1,900	1,140	2,550
Gemstones, natural	NA	590	NA	711	NA	439
Sand and gravel, construction	9,370	53,500	10,600	62,000	11,100	73,600
Silica stone ⁷ metric tons	655	3,660	576	2,290	227	992
Stone, crushed	34,100 ⁴	173,000 ⁴	37,200 ^{r,4}	229,000 ^{r,4}	34,800 ⁴	236,000 ⁴
Combined values of bromine, cement, clays (kaolin), gypsum (crude), lime, sand and gravel (industrial), stone (crushed slate, dimension limestone and sandstone), tripoli						
	XX	299,000	XX	302,000	XX	475,000
Total	XX	531,000	XX	597,000^r	XX	789,000

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
California:						
Boron minerals	1,210	626,000	1,150	713,000	(3)	W
Cement:						
Masonry	(3)	W	694	80,600 ^e	698	89,500 ^e
Portland	11,900	1,000,000 ^e	11,600	1,130,000 ^e	10,900	1,190,000 ^e
Clays:						
Bentonite	24	2,640	20	2,200	24	2,510
Common	1,230	20,700	1,010	16,600	744	7,640
Fuller's earth	197	W	(3)	W	(3)	W
Gemstones, natural	NA	1,070	NA	1,130	NA	1,040
Gold ⁶ kilograms	3,260	43,000	(3)	W	(3)	W
Sand and gravel:						
Construction	166,000	1,280,000	163,000	1,440,000	153,000	1,520,000
Industrial	1,990	55,700	2,030	60,400	1,670	57,800
Silver ⁶ kilograms	801	172	269	63	(3)	W
Stone:						
Crushed	55,300 ⁴	364,000 ⁴	55,200 ^r	491,000 ^r	54,900	644,000
Dimension	42	10,200	41	10,200	40	10,000
Combined values of clays [fire (2006), kaolin], diatomite, feldspar, gypsum (crude), iron ore (usable shipped), lime, magnesium compounds, perlite (crude), pumice and pumicite, salt, soda ash, stone [crushed shell (2004)], talc [crude (2004, 2006)], zeolites, and values indicated by symbol W						
	XX	349,000	XX	332,000	XX	1,070,000
Total	XX	3,760,000	XX	4,280,000 ^r	XX	4,590,000
Colorado:						
Clays:						
Bentonite	5	W	(3)	W	(3)	40
Common	249	1,510	255	1,610	211	1,300
Gemstones, natural	NA	360	NA	358	NA	261
Lime	26	2,570	29	3,900	50	5,750
Sand and gravel:						
Construction	40,900	235,000	44,700	280,000	48,000	327,000
Industrial	(3)	3,300	(3)	W	(3)	W
Stone:						
Crushed	11,100	68,300	13,200 ^r	90,500 ^r	12,100	88,800
Dimension	16	1,980	18	2,400	18	2,400
Combined values of cement, gold, gypsum (crude), helium (Grade-A), molybdenum concentrates, silver, soda ash (2004), and values indicated by symbol W						
	XX	699,000	XX	1,380,000	XX	1,250,000
Total	XX	1,010,000	XX	1,750,000	XX	1,680,000
Connecticut:						
Clays, common						
	87	(8)	89	(8)	85	(8)
Gemstones, natural	NA	6	NA	6	NA	6
Sand and gravel, construction	8,330	55,600	8,400	64,200	8,780	75,600
Stone:						
Crushed	10,100	75,700	10,500 ^r	96,600 ^r	10,000	92,800
Dimension	(3)	(8)	(3)	(8)	(3)	(8)
Total	XX	131,000	XX	161,000 ^r	XX	168,000
Delaware:						
Gemstones, natural	NA	1	NA	1	NA	1
Magnesium compounds metric tons	(3)	(8)	(3)	(8)	(3)	(8)
Sand and gravel, construction	2,980	21,900	2,640	20,000	2,790	22,400
Stone, crushed	--	--	(3)	(8)	(3)	(8)
Total	XX	21,900	XX	20,000	XX	22,400

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Florida:						
Cement:						
Masonry	763	97,600 ^e	902	129,000 ^e	900	142,000 ^e
Portland	5,230	432,000 ^e	5,730	519,000 ^e	5,880	600,000 ^e
Clays:						
Common	(3)	W	4	W	3	W
Fuller's earth	234	W	279	39,700	259	2,000 ^e
Kaolin	31	3,280	29	3,510	23	1,000 ^e
Gemstones, natural	NA	1	NA	1	NA	1
Lime	24	2,090	23	2,940	(3)	1,000 ^e
Peat	478	9,710	464	9,450	496	1,000 ^e
Sand and gravel:						
Construction	29,300	146,000	37,500	210,000	40,000	260,000 ^e
Industrial	679	8,520	715	9,410	3,340	4,000 ^e
Stone, crushed	105,000 ⁴	680,000 ⁴	116,000 ^{r,4}	1,010,000 ^{r,4}	127,000	1,340,000 ^e
Combined values of magnesium compounds, phosphate rock, staurolite, stone [crushed sandstone (2004-05)], titanium concentrates, zirconium concentrates, and values indicated by symbol W						
Total	XX	945,000	XX	971,000 ^r	XX	780,000 ^e
Total	XX	2,320,000	XX	2,910,000 ^r	XX	3,220,000 ^e
Georgia:						
Clays:						
Common	1,550	8,710	1,530	8,730	1,510	8,000 ^e
Fuller's earth	1,400	142,000	874 ^r	82,600 ^r	747	60,000 ^e
Kaolin	6,780	898,000	7,190	825,000	6,920	940,000 ^e
Gemstones, natural	NA	9	NA	9	NA	1
Sand and gravel:						
Construction	9,270	39,400	11,100	68,300	10,900	70,000 ^e
Industrial	665	13,400	689	15,000	973	1,000 ^e
Stone:						
Crushed	79,700	548,000	80,700 ^r	631,000 ^r	90,800	810,000 ^e
Dimension	146	22,100	111 ^r	21,000	81	1,000 ^e
Combined values of barite, cement, feldspar, iron oxide pigments (crude), lime, mica (crude)						
Total	XX	134,000	XX	115,000	XX	140,000 ^e
Total	XX	1,810,000	XX	1,770,000 ^r	XX	2,080,000 ^e
Hawaii:						
Gemstones, natural	NA	262	NA	217	NA	1
Sand and gravel, construction	1,260	12,100	1,390	17,500	1,230	1,000 ^e
Stone, crushed	5,470	61,300	8,230 ^r	107,000 ^r	8,380	120,000 ^e
Total	XX	73,700	XX	125,000 ^r	XX	140,000 ^e
Idaho:						
Gemstones, natural	NA	836	NA	469	NA	1
Sand and gravel, construction	19,600	74,300	20,800	93,800	26,900	130,000 ^e
Stone, crushed	3,420	18,100	4,890 ^r	26,300 ^r	5,960	30,000 ^e
Combined values of cadmium (byproduct of zinc concentrates), ⁵ cement (portland), copper, feldspar, garnet (industrial), gold (2005-06), lead, lime, molybdenum concentrates, perlite (crude), phosphate rock, pumice and pumicite, sand and gravel						

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Illinois:						
Cement, portland	3,010	233,000 ^e	3,240	286,000 ^e	3,110	308,000 ^e
Clays:						
Common	247	1,390	119	667	116	700
Fuller's earth	218	W	225	W	112	W
Gemstones, natural	NA	70	NA	14	NA	34
Sand and gravel:						
Construction	38,700	203,000	37,400	210,000	32,500	176,000
Industrial	4,950	86,200	5,510	104,000	5,410	102,000
Stone, crushed	75,300	462,000	76,400 ^r	549,000 ^r	75,400	573,000
Combined values of lime, peat, stone [dimension dolomite (2005)], tripoli, and values indicated by symbol W	XX	65,000	XX	64,500	XX	62,700
Total	XX	1,050,000	XX	1,210,000	XX	1,220,000
Indiana:						
Cement, portland	3,080	218,000 ^e	3,060	243,000 ^e	3,030	267,000 ^e
Clays, common	729	8,910 ^r	809	13,500	779	16,400
Gemstones, natural	NA	4	NA	4	NA	4
Sand and gravel, construction	28,300	116,000	28,400	135,000	29,300	153,000
Stone:						
Crushed	56,800	265,000	58,900 ^r	321,000 ^r	58,900	349,000
Dimension	251	45,500	240	46,300	233	39,000
Combined values of cement (masonry), clays (ball), gypsum (crude), lime, peat, sand and gravel (industrial)	XX	130,000 ^r	XX	135,000	XX	157,000
Total	XX	784,000 ^r	XX	893,000 ^r	XX	982,000
Iowa:						
Clays, common	325	1,150	630	4,740	356	2,750
Gemstones, natural	NA	2	NA	2	NA	3
Sand and gravel, construction	17,100	74,300	19,900	93,100	17,500	86,700
Stone, crushed	35,800	219,000	36,400 ^r	271,000 ^r	36,300	288,000
Combined values of cement, gypsum (crude), lime, peat, sand and gravel (industrial)	XX	239,000	XX	292,000	XX	319,000
Total	XX	534,000	XX	661,000 ^r	XX	696,000
Kansas:						
Cement, portland	2,690	212,000 ^e	2,890	244,000 ^e	3,000	286,000 ^e
Clays, common	621	7,460	654	4,590	697	7,440
Gemstones, natural	NA	1	NA	1	NA	1
Helium, Grade-A million cubic meters	82	189,000	90	226,000	85	245,000
Salt	2,890	127,000	2,890	135,000	2,630	144,000
Sand and gravel, construction	9,930	32,800	10,100	36,900	12,100	50,000
Stone:						
Crushed	20,600	122,000	22,300 ^r	160,000 ^r	22,000	171,000
Dimension	14	1,730	13	1,590	17	2,270
Combined values of cement (masonry), clays (fuller's earth), gypsum (crude), helium (crude), pumice and pumicite, sand and gravel (industrial)	XX	75,300	XX	63,100	XX	67,400
Total	XX	768,000	XX	872,000 ^r	XX	973,000
Kentucky:						
Clays, common	978	4,510	1,060	4,370	1,000	5,140
Gemstones, natural	NA	22	NA	78	NA	48
Sand and gravel, construction	10,300	49,700	10,500	55,000	10,100	54,400
Stone, crushed	62,100 ⁴	384,000 ⁴	61,600 ^r	446,000 ^r	59,000	435,000
Combined values of cement, clays (ball), lime, stone [crushed dolomite (2004)]	XX	253,000	XX	277,000 ^r	XX	311,000
Total	XX	691,000	XX	782,000 ^r	XX	806,000

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Louisiana:						
Clays, common	399	11,000 ^r	416	13,100	563	23,700
Gemstones, natural	NA	6	NA	6	NA	7
Salt	14,300	186,000	13,800	182,000	13,300	158,000
Sand and gravel:						
Construction	19,400	103,000	18,600	113,000	23,300	188,000
Industrial	476	14,800	509	11,600	663	16,100
Combined values of gypsum (crude), lime, stone (crushed limestone and sandstone)	XX	51,300	XX	78,500 ^r	XX	95,400
Total	XX	366,000 ^r	XX	398,000 ^r	XX	481,000
Maine:						
Clays, common	49	W	50	W	48	W
Gemstones, natural	NA	268	NA	272	NA	275
Sand and gravel, construction	10,800	49,100	11,100	57,400	10,400	62,400
Stone, crushed	4,370	29,500	4,450 ^r	30,800 ^r	4,920	37,600
Combined values of cement [masonry (2004, 2006), portland], peat, stone (dimension granite), and values indicated by symbol W	XX	39,300	XX	52,400	XX	57,400
Total	XX	118,000	XX	141,000	XX	158,000
Maryland:						
Cement, portland	2,520	175,000 ^e	2,550 ^r	210,000 ^e	2,650	237,000 ^e
Clays, common	262	571	317	686	286	851
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel, construction	12,700	75,500	12,300	89,500	11,900	96,700
Stone:						
Crushed	35,300	214,000	33,500 ^r	277,000 ^r	32,000	317,000
Dimension	27	9,580	26	3,010	14	1,750
Combined values of cement (masonry), lime, sand and gravel [(industrial (2004-05))]	XX	(8)	XX	(8)	XX	(8)
Total	XX	474,000	XX	580,000 ^r	XX	653,000
Massachusetts:						
Clays, common	36	(8)	37	(8)	36	(8)
Gemstones, natural	NA	1	NA	1	NA	1
Lime	(3)	(8)	(3)	(8)	(3)	(8)
Sand and gravel, construction	14,400	89,900 ^r	16,500	117,000	17,600	134,000
Stone:						
Crushed	13,700	109,000	14,500 ^r	121,000	14,300	149,000
Dimension	82	11,600	82	11,500	82	11,500
Total	XX	211,000	XX	250,000	XX	294,000
Michigan:						
Cement:						
Masonry	231	27,100 ^e	228	27,500 ^e	176	22,700 ^{e,*}
Portland	(3)	W	(3)	W	5,440	536,000 ^e
Clays, common	605	3,070	334	514	405	1,010
Gemstones, natural	NA	1	NA	1	NA	2
Gypsum, crude	452	5,660	1,050	10,700	1,050	9,980
Peat	122	3,360	117	3,300	(3)	W
Sand and gravel:						
Construction	69,500	254,000	64,800	243,000	50,500	215,000
Industrial	1,690	25,200	1,610	24,500	1,460	30,400
Stone, crushed	36,700 ⁴	143,000 ⁴	36,000 ^r	139,000 ^r	32,500	142,000
Combined values of bromine, iron ore (usable shipped), iron oxide pigments (crude), lime, magnesium compounds, potash, salt, stone [crushed marl (2004), dimension, dolomite and sandstone], and values indicated by symbol W	XX	1,210,000	XX	1,300,000	XX	970,000
Total	XX	1,680,000	XX	1,750,000	XX	1,930,000 [*]

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Minnesota:						
Clays, common	20	22	20	22	32	40
Gemstones, natural	NA	6	NA	6	NA	6
Iron ore, usable shipped	41,400	1,560,000	40,600	1,830,000	40,400	2,160,000
Lime	(3)	(8)	(3)	(8)	(3)	(8)
Peat	63	5,210	68	5,670	69	5,280
Sand and gravel:						
Construction	54,900	235,000	54,100	253,000	50,300	240,000
Industrial	(3)	(8)	(3)	(8)	(3)	(8)
Stone:						
Crushed	10,400 ⁴	64,900 ⁴	10,500	87,400 ^r	12,400	121,000
Dimension	22	12,400	19	13,400	22	12,400
Total	XX	1,880,000	XX	2,190,000	XX	2,540,000
Mississippi:						
Clays:						
Bentonite	(3)	W	(3)	W	78	5,180
Common	610	2,700	642	2,860	549	3,100
Fuller's earth	381	35,200	354	33,000	338	33,600
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel, construction	14,100	80,700	14,400	85,200	19,300	133,000
Stone, crushed	2,760	34,200	3,520 ^r	47,800 ^r	3,050	53,000
Combined values of cement (portland), clays (ball), sand and gravel (industrial)	XX	41,500	XX	52,000	XX	42,400
Total	XX	194,000	XX	221,000 ^r	XX	270,000
Missouri:						
Cement, portland	5,260	388,000 ^e	5,330	464,000 ^e	5,240	500,000 ^e
Clays:						
Common	911	3,290	822	3,400	750	4,160
Fire	(3)	W	(3)	W	359	7,600
Sand and gravel:						
Construction	12,200	60,100 ^r	12,200	61,600	17,000	92,100
Industrial	589	14,200	559	14,500	595	16,400
Stone, crushed	92,600	564,000	87,400 ^r	647,000 ^r	83,600	631,000
Combined values of cadmium (byproduct of zinc concentrates), ⁵ cement (masonry), clays (fuller's earth), copper, gemstones (natural), lead, lime, silver, stone (dimension granite), zinc, and values indicated by symbol W	XX	593,000	XX	666,000	XX	818,000
Total	XX	1,620,000	XX	1,860,000 ^r	XX	2,070,000
Montana:						
Clays, bentonite	102	8,400	(3)	W	(3)	W
Gemstones, natural	NA	653	NA	644	NA	379
Palladium ⁶ kilograms	13,700	102,000	13,300	87,100	14,400	150,000
Platinum ⁶ do.	4,040	110,000	3,920	113,000	4,290	158,000
Sand and gravel, construction	14,400	80,000	14,000	83,600	13,700	95,300
Stone:						
Crushed	4,090	13,700	3,430 ^r	16,600 ^r	3,570	19,200
Dimension	14	2,550	12	2,620	12	2,620
Combined values of cadmium (byproduct in zinc concentrates), ⁵ cement [masonry (2005-06), portland], clays (common), copper, garnet [industrial (2005)], gold, lead, lime, molybdenum concentrates, peat (2004-05), silver, talc (crude), zinc, and values indicated by symbol W	XX	303,000	XX	543,000 ^r	XX	641,000
Total	XX	621,000	XX	847,000	XX	1,070,000

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Nebraska:						
Cement:						
Masonry	(3)	(8)	(3)	(8)	(3)	(8)
Portland	(3)	(8)	(3)	(8)	(3)	(8)
Clays, common	133 ^c	338 ^c	160 ^c	(8)	158 ^c	(8)
Gemstones, natural	NA	4	NA	4	NA	4
Lime	11	514	12	625	13	700
Sand and gravel:						
Construction	15,100	53,200	14,300	60,200	13,100	62,000
Industrial	(3)	(8)	--	--	--	--
Stone, crushed	6,900	51,900	6,950	54,100 ^r	7,390	66,300
Total	XX	106,000	XX	115,000 ^r	XX	129,000
Nevada:						
Clays:						
Bentonite	7	W	7	W	(3)	W
Fuller's earth	(3)	W	25	W	(3)	W
Gold ⁶ kilograms	216,000	2,850,000	212,000	3,030,000	206,000	4,010,000
Mercury ^{c,9}	NA	NA	NA	NA	NA	NA
Sand and gravel, construction	43,100	197,000	52,300	230,000	45,500	224,000
Silver ⁶ kilograms	302,000	65,000	276,000	65,200	245,000	91,300
Stone, crushed	9,760	72,800	9,460 ^r	67,900 ^r	10,200	87,500
Combined values of barite, brucite (2004), cement (portland), clays (kaolin), copper, diatomite, gemstones (natural), gypsum (crude), lime, lithium carbonate, magnesite, perlite (crude), pumice and pumicite (2006), salt, sand and gravel (industrial), zeolites, and values indicated by symbol W	XX	286,000	XX	488,000	XX	724,000
Total	XX	3,470,000	XX	3,890,000 ^r	XX	5,140,000
New Hampshire:						
Gemstones, natural	NA	6	NA	6	NA	6
Sand and gravel, construction	8,940	46,600	8,400	47,400	9,500	61,600
Stone:						
Crushed	4,720	23,900	5,100	40,900	5,950	50,900
Dimension, granite	(3)	(8)	(3)	(8)	(3)	(8)
Total	XX	70,500	XX	88,200	XX	112,000
New Jersey:						
Clays, common	(3)	122	(3)	W	84	216
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	20,100	120,000	21,200	145,000	20,900	192,000
Industrial	2,020	35,800	1,820	34,100	1,520	40,600
Stone, crushed	25,400 ⁴	185,000 ⁴	24,500 ^r	172,000 ^r	46,300	315,000
Combined values of greensand marl, peat, stone [crushed miscellaneous (2004)], and value indicated by symbol W	XX	4,400	XX	4,110	XX	(8)
Total	XX	345,000	XX	356,000 ^r	XX	547,000
New Mexico:						
Clays, common	34	177	36	221	35	228
Copper ⁶	122	362,000	131	502,000	113	784,000
Gemstones, natural	NA	20	NA	19	NA	23
Helium (Grade-A) million cubic meters	(3)	W	--	--	(3)	W
Sand and gravel:						
Construction	13,600	89,500	16,000	112,000	18,400	157,000
Industrial	--	--	113	W	184	W
Silver ⁶ kilograms	3,570	767	6,390	1,510	(3)	W
Stone:						
Crushed	2,830 ⁴	16,400 ⁴	3,750 ^r	25,400 ^r	3,510	23,200
Dimension	57	2,430	7	279	(3)	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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
New Mexico—Continued:						
Combined values of cement, gold, gypsum (crude), helium [Grade-A (2004, 2006)], lime, mica [crude (2004)], molybdenum concentrates, perlite (crude), potash, pumice and pumicite, salt, stone [crushed granite (2004)], zeolites, and values indicated by symbol W	XX	397,000	XX	513,000	XX	509,000
Total	XX	868,000	XX	1,150,000	XX	1,470,000
New York:						
Clays, common	756	10,900	785	11,700	813	30,400
Gemstones, natural	NA	74	NA	78	NA	90
Gypsum, crude	--	--	2,230	11,400	413	2,120
Salt	6,430	301,000	6,840	327,000	6,090	257,000
Sand and gravel, construction	33,100	189,000	31,300	204,000	35,000	236,000
Stone:						
Crushed	49,400	327,000	52,600 ^r	447,000 ^r	52,100	435,000
Dimension	44	4,560	42	7,470	39	3,860
Combined values of cement, garnet (industrial), peat, sand and gravel [industrial (2004, 2006)], talc (crude), wollastonite, zinc	XX	256,000	XX	286,000	XX	368,000
Total	XX	1,090,000	XX	1,290,000	XX	1,330,000
North Carolina:						
Clays:						
Common	2,260	12,900	2,180	13,900	2,340	24,200
Kaolin	34	764	27	593	26	950
Feldspar	351	20,500	351	19,000	362	19,100
Gemstones, natural	NA	280	NA	280	NA	282
Mica, crude	40	9,600	39	10,200	57	12,600
Sand and gravel:						
Construction	11,500	59,700	12,000	63,900	12,900	70,000
Industrial	1,630	29,000	1,150	29,200	1,220	24,700
Stone:						
Crushed	72,300	549,000	73,600 ^{r,4}	708,000 ^{r,4}	77,500	852,000
Dimension	43	18,200	39	17,000	41	17,800
Combined values of olivine (2004), phosphate rock, pyrophyllite (crude), stone [crushed quartzite (2005)]	XX	105,000	XX	(8)	XX	(8)
Total	XX	805,000	XX	862,000 ^r	XX	1,020,000
North Dakota:						
Clays, common						
	(3)	186	76	W	105	W
Gemstones, natural						
	NA	4	NA	4	NA	4
Sand and gravel, construction						
	11,700	32,800	11,300	34,500	14,000	43,700
Stone, crushed						
	(3)	W	89	396	147	683
Combined values of lime, sand and gravel (industrial), stone [crushed miscellaneous (2004)], and values indicated by symbol W	XX	11,300	XX	(8)	XX	(8)
Total	XX	44,300	XX	34,900 ^r	XX	44,400
Ohio:						
Cement:						
Masonry	98 ^r	13,000 ^{r,c}	(3)	W	(3)	W
Portland	1,020 ^r	85,700 ^{r,c}	986	89,200 ^c	966	96,100 ^c
Clays:						
Common	1,360	7,480	1,310	6,880	1,580	17,800
Fire	42	W	55	W	(3)	W
Gemstones, natural	NA	4	NA	4	NA	4
Lime	1,880	127,000	1,790	130,000	1,850	150,000
Sand and gravel:						
Construction	50,800	263,000	51,700	288,000	46,300	289,000
Industrial	1,180	34,200	1,230	37,900	1,110	33,800

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Ohio—Continued:						
Stone:						
Crushed	76,500	396,000	75,200	439,000 ^r	68,500	427,000
Dimension	38	5,100	28	4,880	29	4,950
Combined values of peat, salt, and values indicated by symbol W	XX	197,000	XX	211,000	XX	251,000
Total	XX	1,130,000	XX	1,210,000	XX	1,270,000
Oklahoma:						
Clays, common	1,150	2,410	903	2,520	1,180	4,700
Gemstones, natural	NA	4	NA	43	NA	106
Gypsum, crude	3,250	20,800	2,620	18,400	3,860	27,400
Iodine, crude metric tons	1,130	W	1,570	W	(3)	W
Sand and gravel:						
Construction	12,000	53,700	13,300	65,000	17,000	91,900
Industrial	1,390	31,600	1,480	33,500	1,640	40,400
Stone:						
Crushed	39,800	206,000	47,300 ^r	269,000 ^r	43,300	255,000
Dimension	17	2,100	3	501	3	502
Tripoli metric tons	32,100	2,120	30,600	1,950	18,400	1,890
Combined values of cement*, feldspar, helium (Grade-A), lime, salt, and values indicated by symbol W	XX	199,000	XX	227,000	XX	263,000
Total	XX	519,000	XX	618,000 ^r	XX	684,000
Oregon:						
Clays, bentonite	10	W	(3)	W	(3)	W
Gemstones, natural	NA	1,210	NA	1,180	NA	1,860
Sand and gravel, construction	21,000	125,000	22,000	146,000	23,800	175,000
Stone, crushed	22,700	126,000	26,800 ^r	164,000 ^r	25,000	189,000
Combine values of cement (portland), clays (common), diatomite, lime, perlite (crude), pumice and pumicite, talc (crude), and values indicated by symbol W	XX	114,000	XX	128,000	XX	143,000
Total	XX	367,000	XX	439,000 ^r	XX	509,000
Pennsylvania:						
Cement:						
Masonry	(3)	W	399	49,700 ^c	384	52,200 ^c
Portland	6,230	473,000 ^c	6,290	554,000 ^c	6,020	599,000 ^c
Clays, common	822	3,270	705	3,460	742	5,630
Gemstones, natural	NA	1	NA	1	NA	1
Lime	1,220	100,000	1,100	104,000	1,160	115,000
Peat	11	307	7	210	1	52
Sand and gravel:						
Construction	20,000	127,000	17,000	111,000	18,400	126,000
Industrial	(3)	W	711	15,400	696	15,500
Stone:						
Crushed	113,000	639,000	107,000 ^r	713,000 ^r	111,000	788,000
Dimension	33	10,100	35	11,800	38	12,800
Combined value of tripoli and values indicated by symbol W	XX	55,800	XX	(8)	XX	(8)
Total	XX	1,410,000	XX	1,560,000 ^r	XX	1,710,000
Rhode Island:						
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	2,490	22,000	2,510	23,000	2,430	25,800
Industrial	(3)	(8)	(3)	(8)	(3)	(8)
Stone, crushed	1,600 ⁴	12,400 ⁴	1,610 ⁴	12,300 ^{r,4}	2,320 ⁴	18,000 ⁴
Total	XX	34,400	XX	35,300 ^r	XX	43,700

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
South Carolina:						
Cement:						
Masonry	453	49,900 ^e	498	54,300 ^e	575	68,900 ^e
Portland	3,110	196,000 ^e	3,270	247,000 ^e	3,320	294,000 ^e
Clays:						
Common	1,050	3,350	1,020	3,610	992	4,250
Fire	1	64	54	892	60	348
Kaolin	296	19,600	287	17,700	294	17,900
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	9,960	35,100	11,100	45,200	10,900	51,100
Industrial	719	17,600	794	19,400	905	21,800
Stone:						
Crushed	31,300	210,000	33,800 ⁴	258,000 ⁴	30,400 ⁴	261,000 ⁴
Dimension	9	850	9	850	9	850
Combined values of mica (crude), stone [crushed marble (2005-06)], vermiculite (crude)	XX	(8)	XX	12,600	XX	15,200
Total	XX	532,000	XX	659,000	XX	735,000
South Dakota:						
Clays, common	188	W	183	W	176	W
Sand and gravel, construction	14,000	51,700	12,800	45,500	16,400	59,800
Stone, crushed	6,410	27,600	6,740 ^r	32,400 ^r	6,320	34,600
Combined values of cement (portland), feldspar, gemstones (natural), gold, gypsum (crude), iron ore [usable shipped (2005-06)], lime, mica (crude), stone (dimension granite), and values indicated by symbol W	XX	131,000	XX	139,000	XX	129,000
Total	XX	211,000 ^r	XX	217,000 ^r	XX	223,000
Tennessee:						
Clays:						
Ball	762	34,300	740	32,500	736	32,300
Common	365	3,140	372	3,210	231	1,530
Fuller's earth	(3)	W	91	W	(3)	W
Kaolin	(3)	W	1	W	(3)	W
Sand and gravel:						
Construction	7,830	47,500	7,570	51,500	8,500	57,900
Industrial	975	26,100	985	26,500	1,010	29,300
Stone, crushed	57,900	381,000	66,500 ^r	483,000 ^r	65,300	517,000
Combined values of cadmium [byproduct in zinc concentrates (2004)], cement, gemstones (natural), lime, salt, stone (dimension marble), zinc (2004), and values indicated by symbol W	XX	160,000	XX	174,000	XX	218,000
Total	XX	652,000	XX	771,000 ^r	XX	856,000
Texas:						
Cement:						
Masonry	319	38,000 ^e	395	48,500 ^e	382	50,700 ^e
Portland	11,200	800,000 ^e	11,600	951,000 ^e	11,300	1,070,000 ^e
Clays:						
Ball	(3)	W	(3)	7,730	(3)	W
Bentonite	(3)	W	(3)	W	71	2,300
Common	2,160	8,890	2,340	8,680	2,360	12,600
Gemstones, natural	NA	201	NA	201	NA	202
Gypsum, crude	2,450	18,800	1,540	11,800	1,430	11,800
Lime	1,630	115,000	1,610	112,000	1,650	130,000
Salt	9,780 ^r	118,000	9,600	118,000	9,570	132,000
Sand and gravel:						
Construction	81,700	436,000	80,700	472,000	99,500	603,000
Industrial	2,790	109,000	2,840	114,000	1,530	65,600

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Texas—Continued:						
Stone:						
Crushed	122,000	621,000	137,000 ^r	820,000 ^r	136,000	824,000
Dimension	64	15,200	44	12,200	31	12,600
Talc, crude	258	W	(3)	W	(3)	W
Combined values of brucite, clays (fuller's earth, kaolin), helium, zeolites, and values indicated by symbol W	XX	46,300	XX	41,500 ^r	XX	68,200
Total	XX	2,330,000	XX	2,720,000	XX	2,980,000
Utah:						
Beryllium concentrates	metric tons	2,210	NA	2,780	NA	3,830
Clays:						
Bentonite		73	W	(3)	W	(3)
Common		443	5,600	478	6,710	526
Gemstones, natural		NA	235	NA	235	NA
Salt		2,250	107,000	2,250	132,000	2,810
Sand and gravel, construction		29,800	125,000	33,900	149,000	38,000
Stone, crushed		8,030	45,100	8,570 ^r	52,100 ^r	9,860
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	1,660,000	XX	2,460,000	XX
Total		XX	1,950,000	XX	2,800,000 ^r	XX
Vermont:						
Gemstones, natural		NA	1	NA	1	NA
Sand and gravel, construction		4,970	24,000	5,240	32,000	5,810
Stone:						
Crushed		5,110	30,800	4,960 ^{r,4}	37,900 ^{r,4}	2,070 ⁴
Dimension		100	30,600	98	27,800	100
Talc, crude		(3)	(8)	(3)	(8)	(3)
Total		XX	85,400	XX	97,700 ^r	XX
Virginia:						
Clays:						
Bentonite		5	W	--	--	--
Common		994	4,640	983	4,690	762
Kyanite ^e		90	13,400	90	13,400	90
Sand and gravel, construction		12,800	75,800	12,000	85,800	14,200
Stone:						
Crushed		73,700 ⁴	540,000 ⁴	85,700 ^r	772,000 ^r	74,800 ⁴
Dimension		5	594	6	631	6
Talc, crude		--	--	1	15	(3)
Combined values of cement, clays (fuller's earth), feldspar, gemstones (natural), iron oxide pigments (crude), lime, sand and gravel (industrial), stone [crushed marble (2004, 2006)], titanium concentrates (ilmenite), vermiculite (crude), zirconium concentrates, and values indicated by symbol W		XX	256,000	XX	272,000	XX
Total		XX	891,000	XX	1,150,000 ^r	XX
Washington:						
Clays:						
Common		(3)	W	(3)	W	53
Fire		--	--	--	--	25
Gemstones, natural		NA	44	NA	44	NA
Sand and gravel, construction		41,500	227,000	47,200	282,000	48,400
Stone, crushed		12,100	75,500	14,300 ^r	101,000 ^r	12,500

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Washington—Continued:						
Combined values of cadmium (byproduct in zinc concentrates), ⁵ cement (portland), diatomite, gold (2004-05), lead, lime, olivine, peat, sand and gravel (industrial), silver (2004-05), stone (dimension miscellaneous), zinc, and values indicated by symbol W	XX	205,000	XX	255,000	XX	277,000
Total	XX	507,000	XX	638,000 ^r	XX	718,000
West Virginia:						
Clays, common	161	441	186	524	(3)	W
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	524	2,500	318	1,630	429	3,470
Industrial	343	17,300	369	17,800	333	17,200
Stone, crushed	14,700	72,600	14,600 ^r	108,000 ^r	14,500	120,000
Combined values of cement, lime, peat, salt, stone (dimension sandstone), and value indicated by symbol W	XX	73,500	XX	81,100	XX	89,100
Total	XX	166,000	XX	209,000 ^r	XX	230,000
Wisconsin:						
Cement, portland	(3)	(8)	(3)	(8)	--	--
Gemstones, natural	NA	6	NA	6	NA	6
Lime	850	53,900	888	61,300	922	70,700
Peat	(3)	(8)	(3)	(8)	(3)	(8)
Sand and gravel:						
Construction	43,400	178,000	43,200	191,000	39,600	182,000
Industrial	2,140	47,000	2,250	55,700	2,450	74,100
Stone:						
Crushed	39,300	172,000	39,800 ^r	234,000 ^r	35,800	204,000
Dimension	232	23,800	278	27,600	297	35,400
Total	XX	475,000	XX	570,000 ^r	XX	566,000
Wyoming:						
Clays:						
Bentonite	3,510	151,000	4,160	190,000	4,360	209,000
Common	49	107	53	128	53	206
Gemstones, natural	NA	13	NA	14	NA	14
Sand and gravel, construction	10,200	40,100	11,700	52,400	17,200	74,600
Stone, crushed	6,300	35,300	6,990 ^r	39,800 ^r	12,600	71,300
Combined values of cement (portland), gypsum (crude), helium (Grade-A), lime, soda ash, zeolites	XX	819,000	XX	1,010,000	XX	1,240,000
Total	XX	1,050,000	XX	1,300,000	XX	1,590,000
Undistributed:						
Connecticut, Delaware, Maryland, Massachusetts, Minnesota, Nebraska, New Hampshire, New Jersey (2006), North Carolina (2005-06), North Dakota (2005-06), Pennsylvania (2005-06), Rhode Island, South Carolina (2004), Vermont, Wisconsin, undistributed	XX	205,000 ^r	XX	448,000 ^r	XX	502,000 [*]

⁶Estimated. ^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.

³Withheld to avoid disclosing company proprietary data.

⁴Excludes certain stones; kind and value included in "Combined value."

⁵Data not available for 2006.

⁶Recoverable content of ores, etc.

⁷Grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

⁸Withheld to avoid disclosing company proprietary data; values included in "Undistributed."

⁹Secondary production.

*Correction posted on July 14, 2009.

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	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Puerto Rico:						
Cement, portland	1,580	W	1,580	W	1,550	W
Clays, common	114	585	116	596	111	614
Lime	11	2,250	11	2,250	11	2,250
Salt	45	1,500	45	1,500	45	1,500
Stone, crushed	8,660	57,600	8,300 ^r	55,500 ^r	8,790	60,700
Combined values of sand and gravel (industrial), stone (dimension marble), and values indicated by symbol W	XX	125,000	XX	153,000	XX	163,000
Total	XX	187,000	XX	213,000 ^r	XX	228,000
Administered Islands:						
American Samoa, stone, crushed, traprock	(3)	(3)	(3)	(3)	(3)	(3)
Guam, stone, crushed	1,410	13,000	1,410	13,000	900	9,330
Virgin Islands, stone, crushed, limestone and traprock	(3)	(3)	257	2,730	210	2,010
Total	XX	13,000	XX	15,800	XX	11,300

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

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.

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	2005		2006		
	Quantity	Value	Quantity	Value	
Metals:					
Aluminum:					
Crude and semicrude	metric tons	2,370,000	5,410,000	2,820,000	7,550,000
Manufactures	do.	135,000	482,000	143,000	591,000
Antimony:					
Metal, alloys, waste and scrap	do.	740	3,250	459	1,860
Oxide, antimony content	do.	1,400	5,860	1,680	8,870
Arsenic metal, arsenic content	do.	3,270 ^r	8,740 ^r	3,060	5,960
Bauxite and alumina:					
Alumina, calcined equivalent		1,210	631,000	1,540	811,000
Bauxite:					
Calcined, refractory and other grade		18	2,330	13	2,390
Crude and dried		34	7,020	20	3,990
Speciality aluminum compounds, sulfate, chloride, fluoride-based	metric tons	26,900	21,600	44,000	42,400
Beryllium, unwrought, and waste and scrap, other including articles not elsewhere specified	kilograms	201,000	18,600 ^r	135,000	21,500
Bismuth, metal, alloys, waste and scrap, bismuth content	do.	142,000	4,760	311,000	3,540
Cadmium:					
Metal, includes cadmium in alloys and scrap	do.	668,000	1,330	460,000	2,210
Sulfide, gross weight	do.	120,000	55	62,000	32
Chromium:					
Ores and concentrate	metric tons	42,600	9,940	53,900	10,200
Metals and alloys:					
Metal, unwrought powders, waste and scrap, other	do.	1,020	16,900	1,020	21,300
Ferroalloys, high-carbon, low-carbon, ferrochromium-silicon	do.	36,300	38,900	35,700	38,100
Chemicals:					
Oxides, trioxides and other	do.	10,700	18,300	11,700	20,500
Sulfates	do.	79	376	35	145
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium dichromate, potassium dichromate, other	do.	37,900	27,200	29,900	24,400
Pigments and preparations	do.	767	4,090	1,330	6,620
Cobalt:					
Acetates and chlorides	do.	703	3,820	535	3,300
Oxides and hydroxides	do.	829	17,100	1,100	26,800
Metal:					
Unwrought, powders, waste and scrap, mattes, other intermediate products of metallurgy	do.	1,670	60,600	1,930	60,500
Wrought and cobalt articles	do.	2,340	91,800	1,980	90,400
Copper:					
Unmanufactured, does not include unalloyed scrap, copper content	do.	260,000	467,000	328,000	1,160,000
Semimanufactures	do.	254,000	1,100,000	284,000	1,940,000
Scrap, alloyed and unalloyed	do.	658,000	1,060,000	803,000	1,190,000
Ferroalloys not listed elsewhere:					
Ferrophosphorous	do.	1,780	1,150	1,820	2,270
Other	do.	2,200	3,190	3,150	5,740
Gold:					
Ores and concentrates	kilograms	1,380	13,400	2,690	31,800
Dore and precipitates	do.	141,000	2,020,000	159,000	2,670,000
Bullion, refined	do.	182,000	2,550,000	228,000	4,380,000
Waste and scrap	do.	563,000	670,000	567,000	1,270,000
Metal powder	do.	687	9,280	1,320	25,400
Compounds	do.	1,310,000	30,900	1,460,000	28,100
Iron and steel:					
Steel mill products		8,520 ^r	NA	8,830	NA
Fabricated steel products		1,710	NA	1,540	NA
Cast iron and steel products		193	NA	268	NA

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	2005		2006	
	Quantity	Value	Quantity	Value
Metals—Continued:				
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	13,000	3,430,000	14,900	4,230,000
Pig iron, all grades	51	8,110	813	8,750
Direct-reduced iron, steelmaking grade	(2)	16	(2)	11
Ships, boats, and other vessels for scrapping	3	476	5	509
Used rails for rerolling and other uses, includes mixed (used plus new) rails	55	25,600	51	36,400
Iron ore	11,800	584,000	8,270	636,000
Lead:				
Base bullion, Pb content metric tons	198	1,290	197	1,560
Ore and concentrates, Pb content do.	390,000	190,000	298,000	278,000
Unwrought and alloys, Pb content do.	45,500	46,100	52,700	57,800
Wrought and alloys, Pb content do.	19,000	40,800	15,800	40,200
Scrap, gross weight do.	67,300	21,600	121,000	37,200
Magnesium:				
Waste and scrap, Mg content do.	5,630	13,100	3,680	8,410
Metal, Mg content do.	732	2,470	4,170	9,520
Alloys, gross weight do.	1,200	5,870	2,290	8,200
Powder, sheets, tubing, ribbons, wire, other forms, gross weight do.	2,080	22,400	2,180	25,500
Manganese, gross weight:				
Ores and concentrates with 20% or more manganese do.	13,500	3,940	2,240	1,120
Ferromanganese, all grades do.	14,400	14,900	21,700	14,100
Silicomanganese do.	900 ^r	1,220	947	888
Metal, including alloys and waste and scrap do.	2,670	5,960	3,900	9,610
Dioxide do.	5,900	5,040	5,820	5,580
Mercury:				
Metal do.	319	5,810	390	5,870
Amalgams of precious metals whether or not chemically defined do.	1,230 ^r	231,000	397	430,000
Molybdenum:				
Ore and concentrates, including roasted and other, Mo content do.	46,400	1,450,000	37,200	1,460,000
Chemicals:				
Oxides and hydroxides, gross weight do.	14,600	375,000	11,600	300,000
Molybdates, all, gross weight do.	2,150	54,500	2,030	51,800
Ferromolybdenum, Mo content do.	2,090	43,400	2,010	42,500
Other, includes powders, unwrought, bars and rods, waste and scrap, wire, other, gross weight do.	2,030	139,000	2,010	143,000
Nickel, Ni content:				
Primary, unwrought and chemicals do.	7,630	219,000	8,050	286,000
Secondary, stainless steel scrap and waste and scrap do.	55,600	731,000	59,300	866,000
Wrought, not alloyed, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes do.	1,340	26,700	1,230	28,300
Alloyed, unwrought ingot, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes, other alloyed articles, gross weight do.	37,700	819,000	39,200	1,120,000
Niobium (columbium) and tantalum:				
Niobium:				
Ores and concentrates do.	43	398	69	914
Ferroniobium do.	410	4,210	706	6,680
Tantalum:				
Ores and concentrates, includes synthetic do.	546 ^r	9,290 ^r	784	13,400
Unwrought, waste and scrap, powders, alloys, metal do.	699	136,000	611	73,400
Wrought do.	110	49,000	91	39,100
Platinum-group metals:				
Palladium, Pd content kilograms	27,000	122,000	53,100	402,000
Platinum, includes waste and scrap and metal, Pt content do.	45,600 ^r	930,000 ^r	72,900	1,760,000
Iridium, osmium, ruthenium, gross weight do.	1,080 ^r	7,200 ^r	3,390	35,800
Rhodium, Rh content do.	615	28,900	1,600	108,000
Rare earths, estimated rare-earth oxide content:				
Cerium compounds do.	2,220,000	13,600	2,010,000	19,800
Compounds, inorganic and organic do.	2,070,000	14,100	2,700,000	17,300

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	2005		2006		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Rare earths, estimated rare-earth oxide content—Continued:					
Metals, including scandium and yttrium	do.	636,000	5,180	733,000	6,960
Ferrocerium and other pyrophoric alloys	do.	4,320,000	18,000	3,710,000	11,000
Selenium, Se content	do.	254,000	3,040	191,000	2,970
Silicon, gross weight:					
Ferrosilicon	metric tons	13,400	13,400	9,330	10,400
Metal	do.	23,400	847,000	27,100	1,270,000
Silver:					
Bullion, Ag content	kilograms	166,000	45,900	1,500,000	586,000
Dore, Ag content	do.	132,000	35,000	85,400	33,600
Metal powder, gross weight	do.	708,000 ^r	122,000 ^r	1,460,000	255,000
Nitrate, gross weight	do.	61,500 ^r	5,720 ^r	62,300	6,450
Ores and concentrates, Ag content	do.	3,680	834	3,150	4,040
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	do.	269,000 ^r	48,300 ^r	526,000	91,200
Waste and scrap, gross weight	do.	2,240,000 ^r	424,000 ^r	4,890,000	1,140,000
Unwrought, other, gross weight	do.	39,600 ^r	8,690 ^r	85,600	30,800
Thallium, unwrought powders, waste and scrap, others	do.	252	102	NA	NA
Thorium and thorium-bearing materials, thorium ore, monazite concentrate, compounds	do.	737	281	1,090	424
Tin:					
Ingot and pigs	metric tons	4,330	30,500	5,490	40,500
Tin scrap and other tin bearing material, except tinplate scrap, includes rods, profiles, wire, powders, flakes, tubes, pipes	do.	32,800	51,200	23,500	63,000
Tinplate and terneplate	do.	252,000	188,000	198,000	137,000
Titanium:					
Metal, waste and scrap, unwrought, wrought products and castings, ferrotitanium and ferrosilicon titanium	do.	39,500	677,000	30,800	1,040,000
Ores and concentrates	do.	20,900	8,930	32,800	11,800
Pigment, dioxide and oxide	do.	524,000	1,060,000	581,000	1,080,000
Tungsten, W content:					
Ammonium paratungstate	do.	774	8,810	350	4,970
Carbide powder	do.	1,560	37,800	1,010	35,100
Metal powders	do.	750 ^e	28,500	959 ^e	45,300
Miscellaneous tungsten-bearing materials, ferrotungsten, ferrosilicon tungsten, unwrought, waste and scrap, wrought, compounds	do.	2,810	63,400	3,990	91,800
Ores and concentrates	do.	52 ^e	1,600	130 ^e	3,550
Vanadium:					
Aluminum-vanadium master alloy, gross weight	kilograms	15,100,000	45,600	7,650,000	54,500
Ferrovandium, V content	do.	505,000 ^r	19,300	515,000	11,400
Metal, including waste and scrap, gross weight	do.	293,000	16,400	491,000	13,200
Pentoxide, anhydride, V content	do.	254,000	5,470	341,000	7,150
Other oxides and hydroxides, V content	do.	899,000	15,400	832,000	7,780
Zinc:					
Compounds, chloride, chromates of zinc or of lead, compounds n.s.p.f., lithopone, oxide, sulfate, sulfide, gross weight	metric tons	21,900 ^r	30,900 ^r	74,800	76,100
Ores and concentrates, Zn content	do.	786,000	477,000	825,000	1,060,000
Rolled	do.	8,760	10,400	3,780	16,000
Slab	do.	784	1,500	2,530	3,800
Zirconium:					
Ferrozirconium	do.	65	100	491	853
Ores and concentrates	do.	101,000	74,000	76,300	69,200
Oxide, includes germanium oxides and zirconium dioxides	do.	2,260	21,000	3,340	29,800
Unwrought powders	do.	175	3,620	202	5,310
Waste and scrap	do.	1,800	90,300	1,680	120,000
Total		XX	29,200,000 ^r	XX	42,200,000
Industrial minerals:					
Abrasives, manufactured:					
Aluminum oxide, crude	do.	13,900	45,100	15,300	41,200

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	2005		2006		
	Quantity	Value	Quantity	Value	
Industrial minerals—Continued:					
Abrasives, manufactured—Continued:					
Metallic abrasives	do.	26,900	21,600	22,300	24,400
Silicon carbide, crude, ground and refined	do.	15,600	17,400	20,200	28,700
Asbestos, includes reexports:					
Manufactured		NA	374,000	NA	443,000
Unmanufactured	metric tons	1,510	398 ^r	3,410	866
Barite, natural barium sulfate	do.	92,700	9,930	71,500	11,900
Boron minerals and compounds:					
Boric acid, includes orthoboric and anhydrous		183	96,800	221	127,000
Sodium borates		308	110,000	393	139,000
Bromine:					
Compounds, includes methyl bromine and ethylene dibromide, Br content	metric tons	6,830	12,800 ^r	7,920	17,600
Elemental, gross weight	do.	2,710	3,990	4,320	5,180
Cement, hydraulic and clinker		803	68,300	1,550	114,000
Clays:					
Ball		141	8,840	140	7,890
Bentonite		847	98,500	1,270	132,000
Fire		368	34,400	348	38,100
Fuller's earth		55	13,500	69	16,400
Kaolin		3,580	601,000	3,540	626,000
Other, n.e.c., includes chamotte or dinas earth, activated clays and earths, artificially activated clays		634	173,000	607	181,000
Diamond:					
Gemstones, natural, including reexports	thousand carats	25,700	8,470,000	32,600	9,540,000
Industrial including exports and reexports:					
Unworked	do.	1,430	26,100	1,560	26,900
Powder, dust and grit, natural and synthetic	do.	104,000	59,200 ^r	99,700	58,800
Diatomite		142	60,400	150	158,000
Feldspar	metric tons	15,200	2,070	10,400	1,940
Fluorspar	do.	36,100	7,840	13,000	2,430
Garnet, industrial ^c		13	9,700	13	9,450
Graphite, natural and artificial	metric tons	56,200	109,000	58,600	124,000
Gypsum and gypsum products:					
Crude		148	16,400	143	18,300
Plasters		174	33,700	209	36,700
Boards		86	58,900	98	69,900
Other		XX	33,000	XX	37,400
Helium, Grade-A	million cubic meters	51	99,100	62	126,000
Iodine:					
Crude/resublimed	metric tons	2,660	27,900	2,020	34,400
Potassium iodide	do.	68	1,550	82	1,950
Iron oxide pigments and hydroxides:					
Pigment grade	do.	2,220	6,170	3,100	8,090
Other grade	do.	73,100	47,100	68,300	44,400
Kyanite, andalusite, sillimanite ^c		35	7,200	35	7,600
Lime		133	17,500	116	19,200
Lithium chemicals:					
Carbonate	metric tons	4,190	13,700	3,130	10,500
Hydroxide	do.	5,620	20,100	5,540	27,900
Magnesium compounds:					
Compounds, chlorides, hydroxide and peroxide, sulfates	do.	32,700	19,500	31,700	21,900
Magnesite, crude and processed:					
Caustic-calcined magnesia	do.	4,920	2,500	5,690	3,210
Dead-burned and fused magnesia	do.	24,900	11,400	20,000	11,400
Other magnesia	do.	21,700	18,300	21,200	18,900
Crude	do.	21,800	2,490	9,020	1,080

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	2005		2006		
	Quantity	Value	Quantity	Value	
Industrial minerals—Continued:					
Mica:					
Scrap and flake:					
Powder	do.	7,140	4,860	4,990	4,650
Waste	do.	1,480	343	1,710	452
Sheet:					
Unworked	do.	74	269	113	273
Worked	do.	1,350	13,900	1,280	15,100
Peat		36	4,020	41	5,030
Perlite, crude ^c	metric tons	32,000	1,300	30,000	1,290
Potash:					
Potassium chloride	do.	136,000	NA	337,000	NA
Potassium sulfates, all grades	do.	429,000	NA	467,000	NA
Potassium nitrate	do.	3,910	2,250	3,750	2,520
Pumice and pumicite		21 ^r	7,520	22	5,940
Salt		879	51,800	973	54,900
Sand and gravel:					
Construction:					
Sand		137	23,400	113	19,700
Gravel		382	4,800	402	4,410
Industrial		2,910	154,000	3,830	183,000
Silica, special stone products		NA	10,000	NA	9,900
Soda ash		4,680	640,000	4,820	736,000
Stone:					
Crushed		1,270	50,500	1,140	57,300
Dimension		XX	66,100	XX	76,000
Strontium compounds:					
Carbonate, precipitated	metric tons	65 ^r	196	150	157
Oxide, hydroxide, peroxide	do.	301	176	871	594
Sulfur:					
Elemental		684	55,200	635	43,800
Sulfuric acid, 100% H ₂ SO ₄	metric tons	338,000	29,500	248,000	21,800
Talc, excludes powders, talcum (in package), face, compact		198	41,800	179	42,600
Vermiculite ^c		5	970	5	930
Wollastonite ^c	metric tons	7,000	2,100	3,000	900
Zeolites ^c	do.	5,000	1,000	1,000	200
Total		XX	12,000,000 ^r	XX	13,700,000
Grand total		XX	41,200,000 ^r	XX	55,800,000

^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	2005		2006	
	Quantity	Value	Quantity	
Metals:				
Aluminum:				
Crude and semicrude	metric tons	5,330,000	11,500,000	5,180,000
Manufactures	do.	337,000	964,000	344,000
Antimony:				
Metal	do.	6,370	20,400	7,260
Ore and concentrate, antimony content	do.	204	622	153
Oxide, antimony content	do.	22,700	81,600	23,000
Arsenic:				
Acid	do.	9	50	24
Metal	do.	812	3,410	1,070
Sulfide	do.	--	--	75
Trioxide	do.	11,000	5,280	12,400
Bauxite and alumina:				
Alumina, calcined equivalent		1,860	639,000	1,860
Bauxite:				
Calcined, refractory and other grade		818 ^r	76,700 ^r	753
Crude and dried		11,800 ^r	305,000 ^r	11,600
Speciality aluminum compounds, sulfate, chloride, fluoride-based	metric tons	14,800	7,620	25,500
Beryllium, ore, concentrates, oxide, hydroxide, unwrought including powders, waste and scrap, other, beryllium-copper master alloys, beryllium-copper plates, sheets, strip	kilograms	1,040,000	16,300	1,380,000
Bismuth, metallic	do.	2,530,000	20,500	2,300,000
Cadmium:				
Metal	do.	81,300	1,040	1,220
Sulfide, gross weight	do.	8,760	75	115,000
Chromium:				
Chromite ore	metric tons	165,000	23,100	150,000
Metals and alloys:				
Ferroalloys, high-carbon, low-carbon, ferrochromium-silicon	do.	478,000	408,000	459,000
Metal, unwrought powders, waste and scrap, other	do.	11,000	87,700	10,900
Chemicals:				
Oxides, hydroxides, trioxides and other	do.	14,600	32,600	11,400
Sulfates	do.	288	438	422
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium dichromate, potassium dichromate, other	do.	9,890	7,460	16,800
Carbide	do.	131	2,150	126
Pigments and preparations based on chromium	do.	7,510	22,100	6,550
Cobalt:				
Metal:				
Alloys, unwrought, waste and scrap, wrought, cobalt articles	do.	1,170	28,200 ^r	997
Unwrought, excluding alloys and waste and scrap, includes cathode and metal powder, may include intermediate products of cobalt metallurgy	do.	9,350	312,000	9,950
Oxide and hydroxides	do.	1,310	35,100	1,180
Other forms, includes acetates, carbonates, chlorides, sulfates	do.	2,200	24,800	2,330
Copper:				
Unmanufactured, does not include unalloyed scrap, copper content	do.	1,140,000	3,970,000	1,250,000
Semimanufactures	do.	524,000	1,940,000	512,000
Scrap, alloyed and unalloyed	do.	114,000	276,000	118,000
Ferroalloys not listed elsewhere:				
Ferrophosphorus	metric tons	12,100	3,940	11,400
Other	do.	7,500	15,000	7,310

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	2005		2006		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Gold:					
Ores and concentrates	kilograms	1,630	18,900	1,090	12,600
Dore and precipitates	do.	234,000	2,060,000	125,000	1,990,000
Bullion, refined	do.	105,000	1,520,000	136,000	2,550,000
Waste and scrap	do.	27,300	209,000	43,000	448,000
Metal powder	do.	1,990	6,730	1,460	13,600
Compounds	do.	29,500	935	122,000	2,450
Indium, unwrought and waste and scrap	do.	142,000	94,300	100,000	71,400
Iron and steel:					
Steel mill products		29,200	NA	41,100	NA
Fabricated steel products		5,120	NA	5,930	NA
Cast iron and steel products		747 ^r	NA	751	NA
Stainless steel	metric tons	585,000	NA	641,000	NA
Iron and steel scrap:					
Ferrous, includes tinplate and template, excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping		3,840	909,000	4,820	1,250,000
Pig iron, all grades		6,030	1,580,000	6,730	1,760,000
Direct-reduced iron, steelmaking grade		2,170	361,000	2,610	417,000
Ships, boats, and other vessels for scrapping		(2)	208	(2)	49
Used rails for rerolling and other uses, includes mixed (used plus new) rails		164	62,800	185	65,600
Iron ore		13,000	532,000	11,500	611,000
Lead:					
Pigs and bars, Pb content	metric tons	298,000	303,000	331,000	413,000
Pigments and compounds, Pb content	do.	32,500	55,500	27,900	55,400
Scrap, reclaimed, includes ash and residues, Pb content	do.	3,340	2,880	1,560	1,650
Wrought, all forms, including wire and powders, gross weight	do.	11,900	28,900	12,100	35,500
Magnesium:					
Waste and scrap, gross weight	do.	14,700	22,700	17,200	23,700
Metal, gross weight	do.	28,700	80,700	31,900	74,900
Alloys, Mg content	do.	40,300	139,000	25,200	88,200
Powder, sheets, tubing, ribbons, wire, other forms, Mg content	do.	1,040	10,100	927	10,100
Manganese:					
Ores and concentrates with 20% or manganese, all grades, Mn content	do.	334,000	58,200	270,000	53,900
Ferromanganese, all grades, Mn content	do.	201,000 ^r	200,000	282,000	275,000
Silicomanganese, Mn content	do.	218,000	231,000	264,000	288,000
Metal, unwrought, other wrought, waste and scrap, gross weight	do.	32,300 ^r	55,900 ^r	32,900	46,700
Chemicals, manganese dioxide and potassium permanganate, gross weight	do.	32,600	41,600	37,700	49,600
Mercury:					
Metal	do.	212	2,530	94	2,320
Amalgams of precious metals whether or not chemically defined	do.	51	89,100	27	115,000
Molybdenum:					
Ores and concentrates, including roasted and other, Mo content	do.	11,900	746,000	10,900	395,000
Chemicals, gross weight:					
Oxides and hydroxides	do.	1,240	42,500	629	24,300
Molybdates, all	do.	2,750 ^r	54,800	915	36,900
Orange	do.	983	4,780	824	5,110
Ferromolybdenum, Mo content	do.	4,050	278,000	3,060	165,000
Other, includes powders, unwrought, bars and rods, waste and scrap, wire, other, gross weight	do.	879	72,900	1,160	75,700
Nickel, Ni content:					
Primary, chemicals and unwrought	metric tons	143,000	2,060,000	153,000	3,190,000
Secondary, stainless steel scrap and waste and scrap	do.	15,500	223,000	20,300	307,000
Wrought, not alloyed, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes	do.	1,060	26,000	1,110	29,900
Alloyed, unwrought ingot, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes, other alloyed articles	do.	23,300	481,000	27,200	640,000

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	2005		2006	
	Quantity	Value	Quantity	
Metals—Continued:				
Niobium (columbium) and tantalum:				
Niobium:				
Ores and concentrates	metric tons	10	118 ^r	5
Oxide	do.	946	13,400	1,090
Ferroniobium	do.	8,360	71,700	12,500
Unwrought, alloys, metal, powder	do.	1,380	26,700	1,450
Tantalum:				
Ores and concentrates, includes synthetic concentrates	do.	1,250	43,700	1,060
Unwrought, waste and scrap, powders, alloys, metal	do.	1,170 ^r	105,000	798
Wrought	do.	78	17,100	38
Platinum-group metals, metal content:				
Platinum, grains and nuggets, sponge, other unwrought, other, waste and scrap, coins	kilograms	106,000	2,280,000	114,000
Palladium, unwrought and other	do.	139,000	855,000	119,000
Iridium, unwrought and other forms	do.	3,010	16,700	2,800
Osmium, unwrought	do.	39	362	56
Ruthenium, unwrought	do.	23,200	49,800	36,000
Rhodium, unwrought and other forms	do.	13,600	821,000	15,900
Rare earths, estimated equivalent rare-earth oxide (REO) content:				
Cerium compounds, including oxides, hydroxides, nitrates, sulfate chlorides, oxalates	do.	2,170,000	10,600	2,590,000
Yttrium compounds content by weight greater than 19% but less than 85% oxide equivalent	do.	223,000	3,480	168,000
Compounds, including oxides, hydroxides, nitrates, other compounds except chlorides	do.	8,550,000	59,600	10,600,000
Mixtures of REO's except cerium oxide	do.	640,000	6,320	1,570,000
Metals, whether intermixed or alloyed	do.	880,000	4,900	867,000
Mixtures of rare-earth chlorides, except cerium chloride	do.	2,670,000	6,330	2,750,000
Ferrocium and other pyrophoric alloys	do.	130,000	2,050	127,000
Rhenium:				
Metal	do.	21,800	23,300	22,000
Ammonium perrhenate	do.	10,300	7,040	24,200
Selenium and tellurium:				
Selenium, Se content:				
Selenium	do.	575,000	33,900	398,000
Dioxide	do.	14,100	1,190	15,000
Tellurium, Te content	do.	42,200	4,650	31,100
Silicon, gross weight:				
Ferrosilicon	metric tons	290,000	215,000	327,000
Metal	do.	157,000	366,000	149,000
Silver:				
Ash and residues, Ag content	kilograms	2,630	769	4,800
Bullion, Ag content	do.	3,880,000	902,000	4,280,000
Dore, Ag content	do.	300,000	89,500	286,000
Metal powder, gross weight	do.	28,400	6,840	30,700
Nitrate, gross weight	do.	201	30	1,260
Ores and concentrates, Ag content	do.	433	318	--
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	do.	181,000	39,800	194,000
Waste and scrap, gross weight	do.	3,640,000	126,000	2,510,000
Unwrought, other, gross weight	do.	357,000	80,400	259,000
Thallium, unwrought powders, waste and scrap, other	do.	235	33	530
Thorium and thorium-bearing materials, compounds	do.	4,930	145	48,600
Tin, gross weight:				
Compounds	metric tons	564	5,720	440
Dross, skimmings, scrap, residues, alloys, n.s.p.f.	do.	9,930	28,500	7,750

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	2005		2006		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Titanium:					
Concentrate:					
Ilmenite	metric tons	154,000	20,400	187,000	20,100
Rutile, natural and synthetic	do.	366,000	158,000	355,000	162,000
Metal:					
Waste and scrap	do.	12,400	162,000	12,800	200,000
Unwrought	do.	15,800	120,000	24,400	252,000
Ingots	do.	2,450	38,700	3,140	58,800
Billets, bloom, sheet, bar, slab	do.	XX	XX	XX	XX
Powder	do.	126	4,060	152	5,170
Other	do.	1,330	22,900	1,520	35,600
Wrought products and castings, includes bar, castings, foil, pipe, plate, profile, rod, sheet, strip, tube, wire, other	do.	3,660	111,000	5,360	181,000
Ferrotitanium and ferrosilicon titanium	do.	16,900	76,200 ^r	7,080	63,400
Pigment, dioxide and oxide	do.	341,000	578,000	288,000	526,000
Titaniferous iron ore	do.	61,100	3,560	49,800	3,240
Titaniferous slag	do.	667,000	254,000	693,000	276,000
Tungsten, W content:					
Ammonium paratungstate	do.	1,920	29,900	2,900	78,200
Ferrotungsten and ferrosilicon tungsten	do.	385	5,390	265	7,990
Miscellaneous tungsten-bearing materials, metal powders, carbide powder, unwrought, waste and scrap, wrought, oxides, calcium tungstate, other tungstates, other compounds	do.	6,760	164,000	6,540	232,000
Ores and concentrates	do.	2,080	31,400	2,290	49,500
Vanadium:					
Aluminum-vanadium master alloy, gross weight	kilograms	1,010	15	102,000	312
Ferrovandium, V content	do.	11,900,000	131,000	2,140,000	90,500
Metal, including waste and scrap, gross weight	do.	54,800	3,800	121,000	5,270
Miscellaneous chemicals, sulfates and vanadates, V content	do.	85,100	2,800	115,000	3,330
Pentoxide, anhydride, V content	do.	1,370,000	52,900	1,920,000	45,200
Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, V ₂ O ₅ content	do.	3,020,000	12,400	1,780,000	8,450
Other oxides and hydroxides, V content	do.	186,000	6,540	129,000	3,370
Zinc:					
Compounds, chloride, chromates of zinc or of lead, compounds n.s.p.f., lithopone, oxide, sulfate, sulfide, gross weight	metric tons	151,000 ^r	156,000 ^r	179,000	289,000
Ores and concentrates, Zn content	do.	156,000	117,000	383,000	183,000
Rolled	do.	3,630	11,900	2,050	8,250
Slab, refined	do.	668,000	875,000	851,000	2,050,000
Zirconium and hafnium:					
Hafnium, unwrought, including powders	do.	4	931	4	701
Zirconium:					
Ferrozirconium	do.	306	675	197	506
Ores and concentrates	do.	38,200	25,700	36,200	28,600
Oxide, includes germanium oxides and zirconium oxides	do.	3,160	33,300	2,820	39,100
Unwrought powder	do.	269	6,000	213	4,990
Waste and scrap	do.	755	64,900	535	45,700
Total		XX	43,800,000^r	XX	63,400,000
Industrial minerals:					
Abrasives, manufactured:					
Aluminum oxide, crude, ground and refined	do.	244,000	109,000	209,000	99,800
Metallic abrasives	do.	16,500	12,500	19,600	14,400
Silicon carbide, crude, ground and refined	do.	201,000	128,000	185,000	121,000
Asbestos:					
Chrysotile and other unspecified type	do.	2,530	1,420	2,230	1,000
Products with basis of asbestos, cellulose, or other minerals		NA	580,000	NA	599,000

¹ 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	2005		2006		
	Quantity	Value	Quantity	Value	
Industrial minerals—Continued:					
Barite:					
Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate	metric tons	14,100	16,600	12,500	16,300
Crude	do.	2,570,000	137,000	2,530,000	145,000
Ground	do.	84,000	8,250	815	137
Other sulfates	do.	28,600	16,000	22,400	15,300
Boron minerals and compounds:					
Borax		1	319	2	701
Boric acid		52	22,500	85	34,900
Colemanite		31	8,900	25	7,260
Ulexite		103	31,000	131	39,200
Bromine:					
Compounds, contained bromine	metric tons	57,400 ^r	53,400 ^r	43,400	79,800
Elemental	do.	2,710	2,300 ^r	807	1,340
Cement, hydraulic and clinker		33,700	1,560,000	35,900	2,550,000
Clays:					
China clay or kaolin		262	40,200	303	55,600
Fire clay		(2)	156	(2)	168
Decolorizing earths and fuller's earth		2	286	3	223
Bentonite		10	3,550	13	3,100
Common blue clay and other ball clay		1	261	1	233
Other clay		8	4,660	5	3,650
Chamotte or dina's earth		(2)	9	(2)	18
Artificially activated clay and activated earth		17 ^r	10,300	21	16,200
Diamond, industrial:					
Diamond stones, natural and miners'	thousand carats	2,120	29,500	2,140	27,400
Powder, dust and grit, natural and synthetic	do.	284,000	77,300	371,000	80,500
Diatomite	metric tons	4,480	1,280	4,480	1,300
Feldspar and nepheline syenite:					
Feldspar	do.	26,200	1,700	5,180	549
Nepheline syenite	do.	340,000	33,800	426,000	36,000
Fluorspar:					
Aluminum fluoride	do.	4,250	4,170	7,950	8,090
Cryolite	do.	3,110	3,260	3,960	3,870
Fluorspar	do.	629,000	122,000	553,000	112,000
Hydrofluoric acid, HF	do.	137,000	138,000	156,000	168,000
Garnet, industrial ^c		42	5,910	51	8,340
Gemstones		XX	17,200,000	XX	18,300,000
Graphite:					
Natural	metric tons	64,500	34,700	52,600	29,100
Electric furnace electrodes	do.	81,200	157,000	98,200	208,000
Gypsum:					
Crude		11,200	114,000 ^r	11,400	130,000
Plasters		7 ^r	4,350	12	5,010
Boards		739	129,000	994	206,000
Other		XX	41,100	XX	60,400
Iodine:					
Crude	metric tons	6,250	104,000 ^r	5,640	109,000
Potassium iodide	do.	458	8,980 ^r	471	12,000
Iron oxide pigments:					
Natural	do.	5,240 ^r	2,610 ^r	6,270	2,890
Synthetic	do.	188,000	138,000	193,000	156,000
Kyanite, andalusite, sillimanite	do.	6,300	2,410	4,350	1,580
Lime		310	33,100 ^r	298	36,300
Lithium chemicals:					
Carbonate	metric tons	18,900	27,500	16,500	38,200
Hydroxide	do.	124	452 ^r	997	6,040

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	2005		2006		
	Quantity	Value	Quantity	Value	
Industrial minerals—Continued:					
Magnesium compounds:					
Compounds, chlorides, hydroxide, peroxide, sulfates	metric tons	119,000	34,800	107,000	35,900
Magnesite, crude and processed:					
Caustic-calcined magnesia	do.	152,000	23,900	163,000	23,900
Dead-burned and fused magnesia	do.	478,000	124,000	433,000	108,000
Other magnesia	do.	18,300	11,300	19,000	11,100
Crude	do.	15,000	2,260	15,200	2,550
Mica:					
Scrap and flake:					
Powder	do.	21,400	10,100	27,400	11,000
Waste	do.	900	365	918	434
Sheet:					
Unworked, excludes unworked sheet mica valued at less than \$1 per kilogram	do.	44 ^r	81 ^r	355	256
Worked	do.	1,340	12,900	1,420	18,500
Nitrogen, major compounds, gross weight		18,000	4,670,000	16,200	4,550,000
Peat moss	metric tons	891,000	195,000	924,000	223,000
Perlite, processed crude	do.	196,000	7,970	245,000	10,500
Phosphate rock and phosphatic materials		2,730	203,000	2,620	229,000
Potash, chloride, sulfate, nitrate, sodium nitrate mixtures	metric tons	8,110,000	1,170,000	7,380,000	1,150,000
Pumice:					
Crude or unmanufactured		239	31,800	364	11,500
Wholly or partially manufactured		1	5,750	1	3,380
Salt		12,100	180,000	9,490	163,000
Sand and gravel:					
Construction		7,160	86,800	4,960	94,100
Industrial		711	18,200	855	21,000
Silica, special stone products		NA	7,700	NA	8,100
Soda ash		8	2,460	7	2,290
Stone:					
Crushed, chips, calcium carbonate fines, excludes precipitated carbonates		21,000	194,000	19,800	206,000
Dimension		NA	2,180,000	NA	2,500,000
Strontium:					
Carbonate	metric tons	17,900	6,930	13,200	6,440
Celestite	do.	1,820	98	1,530	98
Metal	do.	770	2,210	617	1,820
Nitrate	do.	714	637	1,020	883
Oxide, hydroxide, peroxide	do.	9	38	16	52
Sulfur:					
Elemental		2,820 ^e	70,500	2,950 ^e	70,400
Sulfuric acid, 100% H ₂ SO ₄	metric tons	2,680,000	122,000	2,430,000	90,100
Talc		237	55,600	314	66,700
Vermiculite ^c		91	17,000	65	10,600
Wollastonite ^c	metric tons	6,000	750	2,500	313
Zeolites ^c	do.	--	--	250	50
Total		XX	30,600,000	XX	33,200,000
Grand total		XX	74,400,000 ^r	XX	96,600,000

^cEstimated. ^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 1/4 unit

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

(Thousand metric tons unless otherwise specified)

Mineral or product	World total					United
	2002	2003	2004	2005	2006	2006
Metals:						
Alumina	55,000	57,900	60,700	63,500	69,200	4,700
Aluminum ²	26,100	28,000	29,900	31,900	33,700	2,280
Antimony	metric tons 118 ^r	116 ^r	144 ^r	142 ^r	134	--
Arsenic trioxide ³	do. 62,400 ^r	62,200 ^r	52,400 ^r	52,500	52,700	--
Bauxite ^{3,4,5}	144,000	153,000	161,000 ^r	172,000 ^r	178,000	NA
Beryl ³	metric tons 2,530 ^r	2,680 ^r	2,760 ^r	3,440	4,480	3,830
Bismuth, refinery	do. 6,730	8,700 ^r	15,200 ^r	11,800 ^r	12,000	--
Cadmium, refinery	do. 17,800 ^r	18,700 ^r	19,400 ^r	19,700 ^r	19,300	700
Chromite ³	14,600	15,500 ^r	17,600 ^r	19,000 ^r	19,700	--
Cobalt, Co content:						
Mine	metric tons 52,200 ^r	52,700 ^r	58,400 ^r	63,500 ^r	67,500	--
Refinery	do. 40,800	43,800	49,100	54,900	55,000	--
Copper:						
Mine	13,600 ^r	13,800 ^r	14,700	15,000 ^r	15,100	1,200
Smelter	12,600	12,700 ^r	12,900	13,600	14,100	501
Refinery	15,600 ^r	15,300	16,000 ^r	16,600	17,400	1,250
Gold	kilograms 2,530 ^r	2,560	2,440	2,470	2,460	252
Indium, refinery	metric tons 406	376	396	496	531	--
Iron ore ³	1,100,000	1,210,000 ^r	1,360,000	1,540,000 ^r	1,800,000	52,700
Iron and steel:						
Direct-reduced iron ²	44,600 ^r	47,200 ^r	52,600 ^r	56,500 ^r	59,100	240
Pig iron ²	608,000 ^r	667,000 ^r	711,000 ^r	794,000 ^r	866,000	37,900
Raw steel	907,000 ^r	974,000 ^r	1,060,000	1,140,000 ^r	1,230,000	98,200
Lead:						
Mine, Pb content	metric tons 2,870 ^r	3,160 ^r	3,170 ^r	3,450 ^r	3,470	429
Refinery	do. 6,800 ^r	6,980 ^r	7,070 ^r	7,700 ^r	8,030	1,310
Magnesium ⁵	do. 432 ^r	509 ^r	595	622 ^r	689	W
Manganese ore ³	22,100 ^r	24,200 ^r	27,900 ^r	31,100 ^r	33,400	--
Mercury ⁵	metric tons 1,980 ^r	2,120 ^r	1,640 ^r	1,430 ^r	1,480	NA ⁶
Molybdenum, Mo content	do. 122,000	131,000	159,000	186,000 ^r	185,000	59,800 ⁷
Nickel, Ni content:						
Mine	do. 1,350	1,370	1,420 ^r	1,500 ^r	1,580	--
Refinery	do. 1,210 ^r	1,230 ^r	1,280 ^r	1,300	1,350	--
Niobium (columbium)-tantalum concentrates ³	do. 82,600 ^r	81,600 ^r	67,900 ^r	67,700 ^r	67,700	--
Platinum-group metals	kilograms 433,000 ^r	466,000 ^r	481,000 ^r	510,000 ^r	518,000	18,700
Rhenium	do. 31,600	36,200	42,300	45,900	47,200	8,100
Selenium ^{2,5}	do. 1,410 ^r	1,470 ^r	1,370 ^r	1,430 ^r	1,540	W
Silver	metric tons 18,800	18,800	19,900 ^r	20,600 ^r	20,200	1,140
Tellurium ^{2,5}	kilograms 89	95	124	131 ^r	132	W
Tin:						
Mine	metric tons 235 ^r	259 ^r	301 ^r	299 ^r	304	--
Smelter ⁸	do. 280,000 ^r	282,000 ^r	308,000 ^r	344,000 ^r	366,000	11,600
Tungsten, W content	do. 66,200 ^r	68,300 ^r	102,000 ^r	88,200 ^r	90,800	--
Vanadium	do. 51,000	47,900	51,900	56,400	56,300	--
Zinc:						
Mine, Zn content of concentrate and direct shipping ore	8,880 ^r	9,520 ^r	9,590 ^r	9,930 ^r	10,000	727
Smelter	9,840 ^r	9,980 ^r	10,500 ^r	10,400 ^r	10,600	269
Industrial minerals:						
Asbestos	metric tons 2,320	2,440 ^r	2,310 ^r	2,320 ^r	2,300	--

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
		2002	2003	2004	2005	2006	2006
Industrial minerals--Continued:							
Barite	do.	6,160 ^r	6,780 ^r	7,760 ^r	8,110 ^r	7,960	589 ⁹
Boron minerals	do.	4,580 ^r	4,720 ^r	5,070	5,090 ^r	4,260	W
Bromine	do.	503	488	543 ^r	556 ^r	545	243 ⁹
Celesite	metric tons	444 ^r	492 ^r	521 ^r	570 ^r	585	--
Cement, hydraulic		1,850,000 ^r	2,030,000	2,190,000	2,350,000 ^r	2,560,000	99,700 ¹⁰
Clays:							
Bentonite		10,100 ^r	10,300 ^r	11,500	11,600 ^r	11,700	4,940
Fuller's earth	metric tons	4,030 ^r	4,890 ^r	4,690 ^r	4,160 ^r	3,980	2,540
Kaolin		35,000 ^r	36,200 ^r	37,600 ^r	38,200 ^r	37,500	7,470
Diamond:							
Natural	thousand carats	141,000	158,000	163,000 ^r	178,000 ^r	171,000	--
Synthetic	do.	529,000	543,000	559,000	563,000	566,000	258,000
Diatomite	metric tons	1,970 ^r	1,970 ^r	1,940 ^r	2,010 ^r	2,160	799 ⁹
Feldspar		14,100 ^r	14,300 ^r	14,800 ^r	15,100 ^r	15,400	760
Fluorspar	metric tons	4,450 ^r	4,850 ^r	5,230 ^r	5,280 ^r	5,330	--
Graphite, natural	do.	932	999	1,018	1,040 ^r	1,029	--
Gypsum		111,000 ^r	114,000 ^r	120,000 ^r	122,000 ^r	125,000	21,100
Iodine, crude	metric tons	21,000	24,600 ^r	24,800	26,500 ^r	26,600	W
Iron oxide pigments	do.	635	646	604	610	610	W
Kyanite and related minerals	do.	391	386	456	450	452	130 ¹¹
Lime		221,000 ^r	236,000 ^r	249,000 ^r	259,000 ^r	271,000	21,000 ^{9,1}
Lithium	metric tons	33,200	12,100	13,700	37,500	30,000	W
Magnesite, crude ⁵		14,100 ^r	14,400 ^r	15,100 ^r	14,100 ^r	14,100	W
Mica, including scrap and flake ¹²	metric tons	278 ^r	279 ^r	322 ^r	288 ^r	342	110
Monazite	do.	5,440	5,800	7,410	6,120	6,500	--
Nitrogen, N content of ammonia		109,000	110,000	117,000	122,000 ^r	124,000	8,520 ¹³
Peat		26,300 ^r	24,000 ^r	26,100 ^r	25,700 ^r	25,800	551 ¹⁴
Perlite	metric tons	1,810	1,810	1,860	1,860 ^r	1,810	454 ⁹
Phosphate rock ³		136,000 ^r	139,000 ^r	143,000 ^r	151,000 ^r	142,000	30,100
Potash, K ₂ O equivalent		27,100 ^r	28,600 ^r	31,100 ^r	32,500 ^r	29,100	1,100
Pumice		16,300 ^r	16,500 ^r	18,900 ^r	18,400 ^r	18,800	1,540 ⁹
Rare earths	metric tons	93,000	97,100	102,000	123,000	123,000	--
Salt		214,000 ^r	221,000 ^r	233,000 ^r	246,000 ^r	251,000	44,300 ¹⁰
Sand and gravel, industrial, silica		113,000	115,000	119,000 ^r	116,000 ^r	117,000	31,700 ⁹
Soda ash, natural and manufactured		37,200	38,400	40,600 ^r	42,000 ^r	42,400	11,000 ¹⁵
Sulfur, all forms		62,000 ^r	63,500 ^r	65,500 ^r	65,600 ^r	65,700	9,060
Talc and pyrophyllite ¹⁶	metric tons	8,030 ^r	8,550 ^r	8,760 ^r	8,840 ^r	8,920	895
Titanium concentrates: ³							
Ilmenite and leucoxene	do.	5,410 ^r	5,780 ^r	5,940 ^r	6,090 ^r	6,700	500 ¹⁷
Rutile ⁵	do.	446	361	353 ^r	373 ^r	511	(18)
Vermiculite	do.	497	491	513 ^r	521 ^r	518	100
Zirconium	do.	973	1,030	1,080	1,090	1,180	W

^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.

⁶U.S. production of mercury is byproduct only.

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

⁷Listed in Molybdenum chapter (table 1) as production.

⁸Includes tin content of alloys made directly from ore.

⁹Quantity sold or used by producers.

¹⁰Includes Puerto Rico. Masonary cement and Portland cement only.

¹¹Includes synthetic mullite.

¹²Excludes, if any, U.S. production of low-quality sericite and sheet mica.

¹³Synthetic anhydrous ammonia; excludes coke oven byproduct ammonia.

¹⁴Horticultural use.

¹⁵U.S. production is natural only.

¹⁶Data for the United States exclude proprietary pyrophyllite production.

¹⁷Includes rutile to avoid disclosing company proprietary data. Rounded to one significant digit.

¹⁸Included with ilmenite to avoid disclosing company proprietary data; not included in "Total."