STATISTICAL SUMMARY

By Stephen D. Smith

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, lead, silver, and zinc, the quantities shown 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 annual total value of all nonfuel mineral production in the United States decreased by 1% to \$37.9 billion in 2002, with metals decreasing by slightly more than 4.3% to \$8.3 billion and industrial minerals decreasing by less than 1% to \$29.6 billion compared with those of 2001.² Eight of the mineral commodities produced in the United States in 2002 had individual total production values that were greater than \$1 billion. These commodities were, in descending order, stone (crushed), cement (portland), sand and gravel (construction), gold, copper, iron ore (usable), lime, and salt. They accounted for almost 77% of the U.S. total production value (table 1).

In 2002, 13 States produced nonfuel mineral commodities with individual total production values that were greater than \$1 billion. These States were, in descending order, California, Nevada, Texas, Florida, Arizona, Georgia, Michigan, Minnesota, Pennsylvania, Missouri, Utah, Alaska, and Wyoming. They accounted for almost 60% of the U.S. total production value (table 3).

¹The terms nonfuel mineral production and related values encompass variations in meaning, depending upon the minerals or 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.

²All 2002 USGS mineral production data published in this chapter are as of March 2004. For some mineral commodities, such as construction sand and gravel, crushed stone, and portland cement, data are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. Specialist contact information may be retrieved over the Internet at URL 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 Information Center at 1-800-ASK-USGS (275-8747). All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL http://minerals.usgs.gov/minerals.

 $\label{eq:table 1} \textbf{NONFUEL MINERAL PRODUCTION IN THE UNITED STATES}^{1,\,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	2000		200)1	2002	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
Metals:						
Beryllium concentrates metric tons	4,510	5	2,480	3	1,970	2
Copper ³	1,450	2,810,000	1,340	2,270,000	1,140	1,910,000
Gold ³ kilograms	353,000	3,180,000	335,000	2,930,000	298,000	2,980,000
Iron ore, usable	61,000	1,560,000	50,600	1,210,000	51,500	1,340,000
Iron oxide pigments, crude metric tons	57,100	4,470	61,500	3,460	53,900	1,070
Lead ³ do.	449,000	431,000	454,000	437,000	440,000	423,000
Molybdenum concentrates ⁴ do.	40,900	212,000	37,600	198,000	32,600	236,000
Palladium ⁴ kilograms	10,300	228,000	12,100	237,000	14,800	162,000
Platinum ⁴ do.	3,110	54,900	3,610	61,900	4,390	76,500
Rare-earth metal concentrates ^{e, 4} metric tons	5,000	W	5,000	27,600	5,000	27,600
Silver ³ do.	1,980	318,000	1,740	245,000	1,420	211,000
$Zinc^3$ do.	805,000	987,000	799,000	774,000	780,000	664,000
Combined value of antimony (2000), magnesium						
metal, mercury, titanium concentrates, vanadium,						
zirconium concentrates, and value indicated by						
symbol W	XX	343,000	XX	247,000	XX	229,000
Total	XX	10,100,000	XX	8,640,000	XX	8,260,000
ndustrial minerals, excluding fuels:						
Asbestos metric tons	5,260	W	5,260	W	2,720	1,380
Barite	392	9,840	400	11,000	420	12,200
Boron	1,070	557,000	1,050	506,000	1,050	513,000
Bromine metric tons	228,000	206,000	212,000	159,000	222,000	166,000
Cement:						
Masonry	4,330	461,000 ^e	4,450	477,000 ^e	4,450	480,000
Portland	83,500	6,440,000 ^e	84,500	6,350,000 e	85,300	6,350,000
Clays:						
Ball	1,140	48,400	1,110	45,200	1,120	47,000
Bentonite	3,760	155,000	4,290	187,000	3,970	180,000
Common	23,700	135,000	23,200	129,000	23,000	148,000
Fire	476	7,560	383	5,970	446	10,500
Fuller's earth	2,910	254,000	2,890	233,000	2,730	246,000
Kaolin	8,800	929,000	8,110	867,000	8,010	951,000
Diatomite	677	173,000	644	174,000	624	159,000
Feldspar metric tons	790,000	44,500	800,000	44,100	790,000	42,800
Garnet, industrial do.	60,200	7,060	52,700	6,430	38,500	4,500
Gemstones	NA	17,200	NA	14,900 ^r	NA	12,600
Gypsum, crude	19,500	165,000	16,300	119,000	15,700	108,000
Helium:						
Crude million cubic meters	62	56,600	46	50,200	50	63,600
Grade-A do.	127	251,000	132	262,000	127	293,000
Iodine, crude metric tons	1,470	21,500	1,290	18,400	1,420	21,600
Kyanite ^e	90	13,400	90	13,400	90	13,400
Lime	19,500 r	1,180,000	18,900	1,160,000	17,900	1,120,000
Mica, crude	104	14,100	98	7,990	81	7,340
Peat	847	22,700	998	24,800	933	24,900
Perlite, crude metric tons	672,000	22,700	588,000	21,300	521,000	19,000
Phosphate rock, marketable	38,600	932,000	31,900	856,000	36,100	993,000
Potash	2,600	290,000	2,400	260,000	2,600	280,000
Pumice and pumicite metric tons	697,000	16,900	618,000	18,000	950,000	22,900
Salt	43,300	1,040,000	42,200	1,110,000	37,700	1,010,000
Sand and gravel:	,	,,,,,,	,	,,	, ,	, 0,000
Construction	1,120,000	5,390,000	1,130,000	5,670,000	1,130,000	5,750,000
Industrial	28,400	556,000	27,900	576,000	27,200	572,000
Silica stone ⁵ metric tons	312	4,610	393	4,040	386	3,740
Soda ash	10,200	748,000	10,300	773,000	10,500	784,000
Stone, crushed ⁶	1,550,000	8,290,000	1,600,000	8,920,000	1,520,000	8,690,000
Tripoli metric tons	72,000	15,900 e	60,500	15,100	66,600	16,600
incure tons	, 2,000	15,700	00,500	15,100	55,000	10,000

2.2

$\label{eq:table 1--Continued} TABLE \ 1--Continued$ NONFUEL MINERAL PRODUCTION IN THE UNITED STATES 1,2

(Thousand metric tons and thousand dollars unless otherwise specified)

			2000		01	200	2 ^p
Mineral		Quantity	Value	Quantity	Value	Quantity	Value
Industrial minerals, excluding fuelsContinued:							
Zeolites	metric tons	(7)	NA	(7)	NA	(7)	NA
Combined value of brucite, emery, greensand marl,							
lithium, magnesite, magnesium compounds,							
olivine, pyrophyllite (crude), staurolite, stone							
(dimension), sulfur (Frasch), talc (crude),							
wollastonite, and values indicated by symbol W		XX	619,000	XX	582,000	XX	523,000
Total		XX	29,100,000	XX	29,700,000	XX	29,600,000
Grand total		XX	39,200,000	XX	38,300,000	XX	37,900,000

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

 ${\it TABLE~2}$ NONFUEL MINERALS PRODUCED IN THE UNITED STATES, BY COMMODITY AND STATES IN 2002

(Principal States based upon quantity unless otherwise specified)

Mineral	Principal States	Other States (alphabetical order)
Asbestos	CA	\ \
Barite	NV and GA	
Beryllium concentrate	UT	
Boron	CA	
Bromine	AR and MI	
Brucite	NV and TX	
Cement:		
Masonry	CA, FL, SC, IN, AL	AZ, AR, CO, GA, HI, IA, KS, KY, ME, MD, MI, MO, MT, NE, NM, NY, OH, OK, PA, TN, TX VA, WV.
Portland	CA, TX, PA, MI, MO	All other States except AK, CT, DE, HI, LA, MA, MN, NH, NJ, NC, ND, RI, VT.
Clays:		
Ball	TN, TX, KY, MS, IN	
Bentonite	WY, MT, MS, AL, UT	AZ, CA, CO, GA, NV, OR, TX.
Common	NC, TX, AL, GA, OH	All other States except AK, DE, HI, ID, NV, NH, RI, VT, WI.
Fire	MO, SC, OH, CA	
Fuller's earth	GA, MS, MO, FL, VA	CA, IL, KS, NV, TN, TX.
Kaolin	GA, AL, SC, CA, AR	FL, NV, NC, TN, TX.
Copper ¹	AZ, UT, NM, ID, MO	
Diatomite	NV, CA, OR, WA	
Emery	OR	
Feldspar	NC, VA, CA, GA, OK	ID and SD.
Garnet, industrial	ID, NY, MT	
Gemstones, natural ²	TN, AZ, OR, CA, AR	All other States.
Gold ¹	NV, AK, UT, CA, CO	AZ, ID, MT, SD, WA.
Greensand marl	NJ	
Gypsum, crude	OK, TX, NV, IA, CA	AZ, AR, CO, IN, KS, LA, MI, NM, OH, SD, UT, WY.
Helium:		
Crude	KS, TX, OK	
Grade-A	KS, WY, TX, OK, CO	NM and UT.
Iodine, crude	OK	
Iron ore, usable	MN, MI, NM, SD, CA	
Iron oxide pigments, crude	GA, MI, AL, VA	
Kyanite	VA	
See footnotes at end of table		

See footnotes at end of table.

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

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

³Recoverable content of ores, etc.

⁴Content of ore and concentrate.

⁵Includes grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

⁶Excludes abrasive stone and bituminous limestone and sandstone; all included elsewhere in table.

⁷Withheld to avoid disclosing company proprietary data.

${\it TABLE~2--Continued}\\ {\it NONFUEL~MINERALS~PRODUCED~IN~THE~UNITED~STATES, BY~COMMODITY~AND~STATES~IN~2002}$

(Principal States based upon quantity unless otherwise specified)

Mineral	Principal States	Other States (alphabetical order)
Lead ¹	MO, AK, ID, MT, NV.	· · ·
Lime	MO, AL, KY, OH, TX	All other States except AK, CT, DE, FL, HI, KS, ME, MD, MS, NH, NJ, NY, NC, RI, SC, VT.
Lithium carbonate	NV	·
Magnesite	NV	
Magnesium compounds	MI, UT, FL, DE, CA	
Magnesium metal	UT	
Mica, crude	NC, GA, SC, SD, AZ	
Molybdenum	AZ, CO, UT, ID, NM	
Olivine	NC and WA	
Palladium ¹	MT	
Peat	FL, MI, MN, IN, IL	IA, ME, MT, NJ, NY, OH, PA, WA, WV, WI.
Perlite	NM, OR, AZ, UT, CA	ID and NV.
Phosphate rock	FL, ID, NC, UT	
Platinum ¹	MT	
Potash	NM, UT, MI	
Pumice and pumicite	AZ, OR, NM, CA, ID	KS.
Pyrophyllite, crude	NC	
Rare-earth metal concentrates	CA	
Salt	LA, TX, NY, OH, KS	AL, AZ, CA, MI, NV, NM, OK, TN, UT, WV.
Sand and gravel:		
Construction	CA, TX, MI, AZ, OH	All other States.
Industrial	IL, MI, CA, WI, TX	All other States except AK, CT, DE, HI, KY, ME, MA, MT, NH, NM, OR, SD, UT, VT, WY.
Silica stone ³	AR	
Silver ¹	AK, NV, ID, UT, AZ	CA, CO, MO, MT, SD, WA.
Soda ash	WY, CA, CO	
Staurolite	FL	
Stone:		
Crushed	TX, PA, FL, IL, MO	All other States except DE.
Dimension	IN, GA, VT, WI, MA	All other States except AK, DE, FL, HI, IL, IA, KY, LA, MS, NE, NV, NJ, ND, OR, RI, WY.
Talc, crude	MT, TX, VT, NY, OR	
Titanium concentrates:		
Ilmenite	FL and VA	
Rutile	FL	
Tripoli	IL, OK, AR, PA	
Vermiculite, crude	SC and VA	
Wollastonite	NY	
Zeolites	NM, TX, NV, OR, AZ	CA and ID.
Zinc ¹	AK, TN, MO, MT, ID	
Zirconium concentrates	FL and VA	
¹ Content of ores, etc.		

¹Content of ores, etc.

²Principal producing States based on value.

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

TABLE 3 $VALUE\ OF\ NONFUEL\ MINERAL\ PRODUCTION\ IN\ THE\ UNITED\ STATES\ AND\ PRINCIPAL\ NONFUEL\ MINERALS\ PRODUCED\ IN\ 2002^{1}$

	Value		Percentage	
State	(thousands)	Rank	of U.S. total	Principal minerals, in order of value
Alabama	\$847,000	17	2.24	Cement (portland), stone (crushed), lime, sand and gravel (construction), cement (masonry).
Alaska	1,050,000	12	2.76	Zinc, gold, lead, sand and gravel (construction), silver.
Arizona	1,950,000	5	5.14	Copper, sand and gravel (construction), cement (portland), molybdenum concentrates, stone (crushed).
Arkansas	458,000	30	1.21	Bromine, stone (crushed), cement (portland), sand and gravel (construction), lime.
California	3,410,000	1	9.00	Sand and gravel (construction), cement (portland), boron minerals, stone (crushed), gold.
Colorado	634,000	23	1.67	Sand and gravel (construction), cement (portland), stone (crushed), molybdenum concentrates, gold.
Connecticut ²	134,000	42	0.35	Stone (crushed), sand and gravel (construction), stone (dimension), clays (common), gemstones.
Delaware ²	17,300	50	0.05	Sand and gravel (construction), magnesium compounds, gemstones.
Florida	2,030,000	4	5.37	Phosphate rock, stone (crushed), cement (portland), sand and gravel (construction), cement (masonry).
Georgia	1,640,000	6	4.33	Clays (kaolin), stone (crushed), clays (fuller's earth), cement (portland), cement (masonry).
Hawaii ²	72,300	45	0.19	Stone (crushed), sand and gravel (construction), cement (portland), gemstones.
Idaho	271,000	36	0.71	Phosphate rock, sand and gravel (construction), silver, molybdenum concentrates, cement (portland).
Illinois	917,000	16	2.42	Stone (crushed), cement (portland), sand and gravel (construction), sand and gravel (industrial), lime.
Indiana	733,000	18	1.93	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Iowa	488,000	26	1.29	Cement (portland), stone (crushed), sand and gravel (construction), gypsum (crude), lime.
Kansas	688,000	21	1.81	Cement (portland), helium (Grade-A), salt, stone (crushed), helium (crude).
Kentucky	542,000	25	1.43	Stone (crushed), lime, cement (portland), sand and gravel (construction), clays (ball).
Louisiana	312,000	35	0.82	Salt, sand and gravel (construction), stone (crushed), sand and gravel (industrial), lime.
Maine	99,700	43	0.26	Sand and gravel (construction), cement (portland), stone (crushed), stone (dimension), cement (masonry).
Maryland	400,000	32	1.06	Stone (crushed), cement (portland), sand and gravel (construction), cement (masonry), stone (dimension).
Massachusetts ²	194,000	39	0.51	Stone (crushed), sand and gravel (construction), lime, stone (dimension), clays (common).
Michigan	1,480,000	7	3.90	Cement (portland), iron ore (usable), sand and gravel (construction), stone (crushed), salt.
Minnesota ²	1,300,000	8	3.43	Iron ore (usable), sand and gravel (construction), stone (crushed), sand and gravel (industrial), stone (dimension).
Mississippi	178,000	40	0.47	Sand and gravel (construction), clays (fuller's earth), sand and gravel (crushed), cement (portland), sand and gravel (industrial).
Missouri	1,260,000	10	3.33	Stone (crushed), cement (portland), lead, lime, sand and gravel (construction).
Montana	471,000	28	1.24	Palladium, platinum, sand and gravel (construction), cement (portland), gold.
Nebraska ²	98,400	44	0.26	Cement (portland), stone (crushed), sand and gravel (construction), cement (masonry), lime.
Nevada	2,910,000	2	7.69	Gold, sand and gravel (construction), lime, silver, cement (portland).
New Hampshire ²	65,700	47	0.17	Sand and gravel (construction), stone (crushed), stone (dimension), gemstones.
New Jersey	260,000	37	0.69	Stone (crushed), sand and gravel (construction), sand and gravel (industrial), greensand marl, peat.
New Mexico	561,000	24	1.48	Potash, copper, sand and gravel (construction), cement (portland), stone (crushed).
New York	991,000	14	2.61	Stone (crushed), cement (portland), salt, sand and gravel (construction), wollastonite.
North Carolina	689,000	20	1.82	Stone (crushed), phosphate rock, sand and gravel (construction), sand and gravel (industrial), stone (dimension).
North Dakota	36,500	48	0.10	Sand and gravel (construction), lime, stone (crushed), clays (common), sand and gravel (industrial).
Ohio	973,000	15	2.57	Stone (crushed), sand and gravel (construction), salt, lime, cement (portland).
Oklahoma	473,000	27	1.25	Stone (crushed), cement (portland), sand and gravel (construction), sand and gravel (industrial), iodine (crude).
Oregon	320,000	34	0.84	Sand and gravel (construction), stone (crushed), cement (portland), diatomite, pumice and pumicite.
Pennsylvania ²	1,290,000	9	3.41	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Rhode Island ²	25,500	49	0.07	Sand and gravel (construction), stone (crushed), sand and gravel (industrial), gemstones.
South Carolina ²	460,000	29	1.21	Cement (portland), stone (crushed), cement (masonry), sand and gravel (construction), clays (kaolin).
South Dakota	216,000	38	0.57	Cement (portland), sand and gravel (construction), gold, stone (crushed), stone (dimension).
Tennessee	648,000	22	1.71	Stone (crushed), cement (portland), zinc, sand and gravel (construction), clays (ball).
Texas	2,090,000	3	5.52	Cement (portland), stone (crushed), sand and gravel (construction), salt, lime.
Utah	1,240,000	11	3.27	Copper, gold, cement (portland), salt, sand and gravel (construction).
Vermont ²	70,600	46	0.19	Stone (dimension), sand and gravel (construction), stone (crushed), talc (crude), gemstones.
Virginia	690,000	19	1.82	Stone (crushed), cement (portland), sand and gravel (construction), lime, clays (fuller's earth).
	437,000	31	1.15	Sand and gravel (construction), cement (portland), stone (crushed), diatomite, gold.
Washington		41	0.44	Stone (crushed), cement (portland), sand and gravel (industrial), lime, salt.
Washington West Virginia	167.000			
West Virginia	167,000 392,000			
West Virginia Wisconsin ²	392,000	33	1.03	Sand and gravel (construction), stone (crushed), lime, sand and gravel (industrial), stone (dimension).
West Virginia				

XX Not applicable.

¹Data are rounded to 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 are included with "Undistributed."

 ${\it TABLE~4}\\ {\it VALUE~OF~NONFUEL~MINERAL~PRODUCTION~PER~CAPITA~AND~PER~SQUARE~KILOMETER~IN~2002,~BY~STATE}^1$

	Area (square	Population	Total value	Per ca	anita	Per square kilometer	
State	kilometers)	(thousands)	(thousands)	Value	Rank	Value	Rank
Alabama	134,000	4,460	\$847,000	\$190	14	\$6,330	18
Alaska	1,530,000	635	1,050,000	1,650	2	685	48
Arizona	295,000	5,310	1,950,000	367	6	6,600	16
Arkansas	138,000	2,690	458,000	170	15	3,330	29
California	411,000	34,500	3,410,000	99	27	8,300	11
Colorado	270,000	4,420	634,000	144	18	2,350	40
Connecticut	13,000	3,430	134,000 ²	39	46	10,300	6
Delaware	5,290	796	17,300 ²	22	50	3,260	30
Florida	152,000	16,400	2,030,000	124	21	13,400	2
Georgia	153,000	8,380	1,640,000	196	13	10,800	5
Hawaii	16,800	1,220	72,300 ²	59	41	4,310	26
Idaho	216,000	1,320	271,000	205	12	1,250	44
Illinois	146,000	12,500	917,000	73	36	6,280	19
Indiana	93,700	6,120	733,000	120	22	7,820	13
Iowa	146,000	2,920	488,000	167	16	3,350	28
Kansas	213,000	2,700	688,000	255	10	3,230	31
Kentucky	105,000	4,070	542,000	133	20	5,180	24
Louisiana	124,000	4,470	312,000	70	39	2,520	38
Maine	86,200	1,290	99,700	77	34	1,160	46
Maryland	27,100	5,380	400,000	74	35	14,800	1
Massachusetts	21,500	6,380	194,000 ²	30	48	9,060	10
Michigan	152,000	9,990	1,480,000	148	17	9,740	8
Minnesota	219,000	4,970	1,300,000 ²	261	9	5,950	20
Mississippi	124,000	2,860	178,000	62	40	1,440	42
Missouri	181,000	5,630	1,260,000	224	11	6,990	15
Montana	381,000	904	471,000	521	5	1,240	45
Nebraska	200,000	1,710	98,400 ²	57	43	491	49
Nevada	286,000	2,110	2,910,000	1,380	3	10,200	7
New Hampshire	24,000	1,260	65,700 ²	52	44	2,730	34
New Jersey	20,200	8,480	260,000	31	47	12,900	3
New Mexico	315,000	1,830	561,000	307	7	1,780	41
New York	127,000	19,000	991,000	52	45	7,790	14
North Carolina	136,000	8,190	689,000	84	33	5,050	25
North Dakota	183,000	634	36,500	57	42	199	50
Ohio	107,000	11,400	973,000	86	32	9,090	9
Oklahoma	181,000	3,460	473,000	137	19	2,610	37
Oregon	251,000	3,470	320,000	92	31	1,270	43
Pennsylvania	117,000	12,300	1,290,000 ²	105	26	11,000	43
Rhode Island	3,140	1,060	25,500 ²	24	49	8,130	12
South Carolina	80,600	4,060	460,000 ²	113	24	5,710	22
South Dakota	200,000	757	216,000	285	8	1,080	47
Tennessee	109,000	5,740	648,000	113	25	5,940	21
Texas	691,000		2,090,000	98	28	3,030	32
Utah	220,000	21,300	1,240,000	547	4		
Vermont		2,270 613	70,600 ²	115	23	5,640	23
	24,900 106,000	7,190	690,000		23 29	2,830	33
Virginia Washington	176,000	7,190 5,990	437,000	96 73	37	6,540	17 39
			437,000 167,000	73 93	30	2,480	
West Virginia Wisconsin	62,800	1,800	392,000 ²			2,660	36
	145,000	5,400		73	38	2,700	35
Wyoming	253,000 XX	494 VV	1,010,000	2,040	1 vv	3,970	27 VV
Undistributed	$\frac{XX}{9,370,000^{-3}}$	284,000 ³	202,000	XX	XX	XX	XX

XX Not applicable.

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

¹Data are rounded to 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 are included with "Undistributed."

³Excludes Washington, DC (which has no mineral production), with an area of 179 square kilometers and a population of 572,000.

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Quantity Value
200 42.0
00 e 380 42,0
00 e 4,540 298,0
10. 125. 2.0
10 125 3,8
2,020 24,6
W 531 14,60
08 NA 3.
2,040 127,0
20 12 500 56 7
00 12,500 56,7
20 722 8,99
00 43,400 262,00
00 VV 00
00 XX 8,8
00 XX 847,0
12
12 NA
00 16,900 170,0
00 16,300 93,4
W 559 83,10
1,280 5 6,90
00 VV (05.0
00 XX 695,0
00 XX 1,050,0
20 767 1 200 0
00 767 1,280,0
10 NA 1,6
00 53,800 294,00 W W
00 8,450 51,8
(A) (6) N
00 VV 218.0
00 XX 318,00 00 XX 1,950,00
00 XX 1,950,0
10 022 2.2
40 922 2,2
86 NA 6.
00 8,810 45,6
40 386 3,7
00 30,800 159,0
200 3737 247 2
00 XX 247,0
00 XX 458,0
Y 0.550
W 2,770 1,33 00 1,050 513,0
0 11 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0

TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE $^{\!1,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	200	2000		2001		2002	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value	
CaliforniaContinued:							
Cement:							
Masonry	484	43,100 e	564	51,400 e	W	W	
Portland	10,900	821,000 e	10,100	778,000 e	11,200	853,000	
Clays:							
Bentonite	21	2,160	W	W	26	2,830	
Common	969	16,800	885	18,300	1,030	21,400	
Gemstones	NA	1,500	NA	1,280	NA	1,040	
Gold ⁴ kilograms	17,200	155,000	13,800	121,000	9,180	91,900	
Rare-earth metal concentrates ^e metric tons	5,000	W	5,000	27,600	5,000	27,600	
Sand and gravel:							
Construction	148,000	940,000	149,000	1,080,000	151,000	1,110,000	
Industrial	1,810	45,200	1,840	47,700	1,800	48,000	
Silver ⁴ metric tons	8	1,350	8	1,070	3	506	
Stone:							
Crushed	57,900	360,000	61,600	396,000	67,400	423,000	
Dimension metric tons	33,300	5,790	40,200	9,540	41,000	9,870	
Zeolites do.	(6)	NA	(6)	NA	(6)	NA	
Combined values of clays (fire, fuller's earth, kaolin), diatomite, feldspar, gypsum (crude), iron ore [usable (2001-02)], lime, magnesium compounds, perlite (crude), pumice and pumicite, pyrophyllite							
[crude (2000)], salt, soda ash, and values indicated by symbol W	VV	200,000	vv	256,000	VV	211.000	
• •	$\frac{XX}{XX}$	308,000	XX	256,000	XX	311,000	
Total	XX	3,260,000	XX	3,300,000	XX	3,410,000	
Colorado:	206	2 000	254	1.500	21.4	1.260	
Clays, common	296	2,000	254	1,500	214	1,260	
Gemstones	NA	277	NA	269	NA	269	
Gold ³ kilograms	W	W	6,660	58,300	W	W	
Lime	37	2,170	33	2,000	20	1,250	
Sand and gravel:	42,000	216,000	27 200	104.000	40.700	222 000	
Construction	43,900	216,000	37,300	194,000	40,700	222,000	
Industrial	65	W	W	W	61	W	
Silver ³ metric tons	W	W	3	399	W	W	
Stone:	12 000	01.000	12.000	00.500	15.000	0.6.000	
Crushed	13,000	81,900	13,900	88,500	15,000	96,000	
Dimension metric tons	W	W	10,800	2,130	18,200	2,400	
Combined values of cement, clays [bentonite, fire (2000)], gypsum (crude), helium (Grade-A), molybdenum concentrates, soda ash (2001-02), stone [dimension marble and sandstone (2000)],	•••	205.000	***	102.000	***	211.000	
and values indicated by symbol W	XX	285,000	XX	193,000	XX	311,000	
Total	XX	588,000	XX	540,000	XX	634,000	
Connecticut:							
Clays, common	55	183	55 e	183 ^e	55	183	
Gemstones	NA	6	NA	6	NA	6	
Sand and gravel, construction	8,010	46,900	7,670	44,700	8,140	48,800	
Stone:							
Crushed	7,740	65,300	9,870	83,200	10,200	85,300	
Dimension metric tons	W	(6)	W	(6)	W	(6)	
Total	XX	112,000	XX	128,000	XX	134,000	
Delaware:							
Gemstones	NA	1	NA	1	NA	1	
Magnesium compounds metric tons	W	(6)	W	(6)	W	(6)	
Sand and gravel, construction	2,330	12,400	3,370	19,300	2,190	17,300	
Total	XX	12,400	XX	19,300	XX	17,300	
Florida:							
Cement:							
Masonry	546	64,900 ^e	556	62,600 ^e	591	64,000	
Portland	3,750	285,000 e	4,060	294,000 e	3,950	297,000	
0 0 1 1 0 11							

TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE $^{\!1,\,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	200		200		200	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
FloridaContinued:						
Clays:						
Common	W	W	94 ^e	1,280 e	W	W
Fuller's earth	W	W	334 ^e	22,200 e	W	W
Kaolin	33	3,420	32	3,380	32	3,370
Gemstones	NA	1	NA	1	NA	1
Peat	416	8,640	544	11,300	559	11,500
Sand and gravel:						
Construction	24,500	107,000	24,800	109,000	26,400	114,000
Industrial	510	6,320	598	7,510	645	8,640
Stone, crushed	93,000	495,000	95,100	515,000	97,700	573,000
Combined values of magnesium compounds,	,	ŕ	•	ŕ	ŕ	•
phosphate rock, staurolite, titanium concentrates,						
zirconium concentrates, and values indicated						
by symbol W	XX	848,000	XX	770,000	XX	963,000
Total	XX	1,820,000	XX	1,800,000	XX	2,030,000
Georgia:	7171	1,020,000	7171	1,000,000	7121	2,030,000
Clays:						
Common	1,500	5,200	1,360	4,580	1,310	5,500
Fuller's earth	919		879			
		81,400		80,600	979	93,800
Kaolin	7,660	877,000	7,020	816,000	6,830	893,000
Gemstones	NA	8	NA	8	NA	8
Sand and gravel:				• • • • • •		
Construction	6,940	28,700	7,060	28,800	6,600	27,200
Industrial	651	12,200	W	W	606	12,200
Stone:						
Crushed ⁵	76,400	452,000	77,300	467,000	69,100	454,000
Dimension metric tons	74,200	11,400	108,000	26,500	111,000	18,200
Combined values of barite, cement, clays [bentonite						
(2001-02)], feldspar, iron oxide pigments (crude),						
lime, mica (crude), stone (crushed marble), and						
value indicated by symbol W	XX	151,000	XX	150,000	XX	138,000
Total	XX	1,620,000	XX	1,570,000	XX	1,640,000
Hawaii:						
Cement:						
Masonry	3	645 ^e	W	(6)	W	(6)
Portland	286	26,800 e	112	15,100 e		
Gemstones	NA	(6)	NA	85	NA	109
Sand and gravel, construction	607	6,420	534	6,270	610	7,010
Stone, crushed	5,770	58,100	6,610	64,000	6,380	65,100
Total	XX	92,000	XX	85,500	XX	72,300
Idaho:	7171	72,000	AA	05,500	7171	72,300
Antimony metric tons	W	W				
Gemstones Heart tons	NA	411	NA	665	NA	460
Sand and gravel, construction	17,500	55,700	15,000	52,400	15,700	57,700
Silver ³ metric tons	423	68,000	W 5.250	W	W	W
Stone, crushed	3,500	14,800	5,250	22,500	3,420	15,800
Zeolites metric tons	(6)	NA	(6)	NA	(6)	NA
Combined values of cement (portland), copper,						
feldspar, garnet (industrial), gold, lead, lime,						
molybdenum concentrates, perlite (crude),						
phosphate rock, pumice and pumicite, sand and						
gravel (industrial), stone [dimension granite, quartz,						
sandstone (2000, 2002), dimension quartzite and						
sandstone (2001)], zinc, and values indicated						
by symbol W	XX	219,000	XX	213,000	XX	197,000
Total	XX	358,000	XX	288,000	XX	271,000

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)

	200		2001		2002		
Mineral	Quantity	Value	Quantity	Value	Quantity	Value	
Illinois:							
Cement, portland	2,860	218,000 ^e	2,870	214,000 ^e	2,770	204,000	
Clays:							
Common	200	905	198	972	181	856	
Fuller's earth	W	W	367	34,200	W	W	
Gemstones	NA	8	NA	8	NA	28	
Sand and gravel:							
Construction	30,300	132,000	35,000	156,000	32,000	146,000	
Industrial	4,430	71,600	4,460	72,100	4,510	72,800	
Stone, crushed ⁵	76,000	394,000	80,700 ^r	459,000	75,200	431,000	
Combined values of lime, peat, stone (crushed							
sandstone), tripoli, and values indicated by							
symbol W	XX	96,200	XX	57,400	XX	62,100	
Total	XX	913,000	XX	993,000	XX	917,000	
Indiana:							
Cement, portland	2,630	179,000 e	2,900	195,000 e	2,940	197,000	
Clays, common	639	1,560	575	1,470	429	1,240	
Gemstones	NA	3	NA	3	NA	4	
Sand and gravel, construction	27,900	121,000	29,000	124,000	27,600	122,000	
Stone:							
Crushed	55,400	253,000	58,200	278,000	55,500	268,000	
Dimension metric tons	235,000	32,400	184,000	35,300	237,000	39,500	
Combined values of cement (masonry), gypsum	,	,	,	,	,		
(crude), lime, peat, sand and gravel (industrial)	XX	108,000	XX	104,000	XX	105,000	
Total	XX	695,000	XX	738,000	XX	733,000	
Iowa:		,		,		,	
Clays, common	306	1,060	274	836	256	763	
Gemstones	NA	2	NA	2	NA	2	
Sand and gravel:	1112	_	1111	_	1,12	-	
Construction	12,300	54,100	14,200	63,800	14,600	62,300	
Industrial	29	W	35	1,590	W	02,500 W	
Stone, crushed	40,000	208,000	35,600	189,000	35,900	194,000	
Combined values of cement, gypsum (crude), lime,	40,000	200,000	33,000	102,000	33,700	174,000	
peat, and values indicated by symbol W	XX	239,000	XX	211,000	XX	231,000	
Total	XX	502,000	XX	466,000	XX	488,000	
Kansas:	AA	302,000	AA	400,000	AA	700,000	
Cement:							
Masonry	W	W	25	2,460 e	W	W	
Portland	1,980	155,000 ^e	1,830	140,000 e	2,350	181,000	
	594	3,970	635				
Clays, common Gemstones				4,280	642	4,280	
	NA	12	NA	3	NA	1	
Helium:	117	117	26	20, 400	***	***	
Crude million cubic meters	W	W	36	39,400	W	W	
Grade-A do.	77	153,000	82	163,000	W	W	
Salt	2,770	114,000	3,130	122,000	2,630	119,000	
Sand and gravel, construction	10,000	28,200	10,200	29,100	9,560	28,700	
Stone:							
Crushed	23,300	113,000	22,800	110,000	21,700	107,000	
Dimension metric tons	14,100	1,890	13,000	4,780	15,100	1,900	
Combined values of clays (fuller's earth), gypsum							
(crude), pumice and pumicite, sand and gravel							
(industrial), and values indicated by symbol W	XX	59,800	XX	14,300	XX	246,000	
Total	XX	629,000	XX	629,000	XX	688,000	
Kentucky:							
Clays:							
Common	1,000	4,190	1,010	4,230	925	4,740	
Fire	10	35					
Gemstones	NA	47	NA	64	NA	64	
Sand and gravel, construction	11,000	36,000	10,100	40,400	9,530	37,900	
Stone, crushed	55,100	294,000	60,200	331,000	50,600	302,000	
~							

TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY ${\rm STATE}^{1,\,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	2000		2001		2002		
Mineral	Quantity	Value	Quantity	Value	Quantity	Value	
KentuckyContinued:	3737	164.000	7777	212.000	3737	107.000	
Combined values of cement, clays (ball), lime	XX	164,000	XX	213,000	XX	197,000	
Total Louisiana		499,000	XX	588,000	XX	542,000	
Louisiana:	636	1,530	663	1,670	667	1,680	
Clays, common Gemstones	NA	1,330	NA	1,670	NA	1,080	
Salt	13,400	124,000	13,100	139,000	12,000	129,000	
Sand and gravel:	13,400	124,000	13,100	139,000	12,000	129,000	
Construction	14,900	76,900	18,100	85,100	17,900	96,800	
Industrial	648	12,300	637	11,900	541	12,000	
Combined values of gypsum (crude), lime, stone	0-10	12,500	037	11,700	5-11	12,000	
[crushed limestone and sandstone (2000), crushed							
limestone, sandstone, and miscellaneous (2001-02)],							
sulfur [Frasch (2000)]	XX	110,000	XX	71,200	XX	72,400	
Total	XX	325,000	XX	309,000	XX	312,000	
Maine:		320,000		507,000		212,000	
Clays, common	49 ^e	125 ^e	49 ^e	125 ^e	49	125	
Gemstones	NA	239	NA	245	NA	257	
Sand and gravel, construction	9,670	37,600	11,200	44,900	9,680	40,400	
Stone, crushed	3,650	21,100	4,210	24,200	4,010	23,400	
Combined values of cement, peat, stone (dimension	ŕ	ŕ	ŕ	ŕ	,		
granite)	XX	36,500	XX	32,600	XX	35,400	
Total	XX	95,500	XX	102,000	XX	99,700	
Maryland:						-	
Cement:							
Masonry	78	7,140 e	77	7,070 e	W	W	
Portland	1,760	125,000 e	1,720	124,000 ^e	1,880	140,000	
Clays, common	271	982	266	560	268	550	
Gemstones	NA	1	NA	1	NA	1	
Sand and gravel, construction	13,100	84,700	12,500	84,800	12,200	83,500	
Stone:							
Crushed	22,000 5	123,000 5	22,800 5	136,000 5	22,300	141,000	
Dimension metric tons	28,700	3,560	27,500	3,440	20,500	2,120	
Combined values of sand and gravel (industrial), and							
stone (crushed marble, shell, traprock), and value							
indicated by symbol W	XX	(6)	XX	(6)	XX	33,500	
Total	XX	344,000	XX	356,000	XX	400,000	
Massachusetts:							
Clays, common	36 ^e	321 ^e	36 ^e	321 ^e	36	321	
Gemstones	NA	1	NA	1	NA	1	
Lime	W	(6)	W	(6)	W	(6)	
Sand and gravel, construction	13,200	80,100	14,000	89,300	12,900	75,300	
Stone:							
Crushed	13,400	103,000	14,500	121,000	13,800	107,000	
Dimension metric tons	69,600	16,800	81,400	11,400	80,600	11,300	
Total	XX	200,000	XX	221,000	XX	194,000	
Michigan:							
Cement:	206	20,000 8	200	20.000 5	202	20.000	
Masonry	296	28,900 e	290	28,900 e	292	30,000	
Portland	5,790	450,000 e	5,920	456,000 e	W	W	
Clays, common	594	3,210	595	2,280	499	884	
Gemstones	NA 1 080	10.800	NA ozo	10,600	NA 1 020	10.800	
Gypsum, crude	1,980	19,800	929	10,600	1,020	10,800	
Peat Sandandanda	207	5,750	208	4,750	188	4,670	
Sand and gravel:	75 (00	260,000	76 200	266,000	77 200	267,000	
Construction	75,600	269,000	76,300	266,000	77,300	267,000	
Industrial	2,520	27,800	2,530	30,000	2,210	31,000	
Stone, crushed ⁵ See footnotes at end of table	42,200	148,000	43,200	160,000	41,100	170,000	

TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY ${\rm STATE}^{1,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

<i>M</i> ' 1	2000		200		200	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
MichiganContinued:						
Combined values of bromine, iron ore (usable), iron						
oxide pigments (crude), lime, magnesium						
compounds, potash, salt, stone (crushed marl and						
miscellaneous, dimension dolomite and sandstone),						
and value indicated by symbol W	XX	691,000	XX	669,000	XX	962,000
Total	XX	1,640,000	XX	1,630,000	XX	1,480,000
		1,040,000	АА	1,030,000	АА	1,480,000
Minnesota:	1.4	1.5	1.4	1.5	1.4	1.5
Clays, common	14	15	14	15	14	15
Gemstones	NA	6	NA	6	NA	6
Iron ore, usable	46,700	1,180,000	37,300	856,000	39,600	1,050,000
Peat	75	5,100	83	4,430	64	5,320
Sand and gravel, construction	39,500	158,000	39,800	155,000	43,700	175,000
Stone:						
Crushed	12,400	68,100	9,730	57,000	9,960	57,600
Dimension metric tons	W	W	15,700	11,800	21,600	12,400
	VV	vv	13,700	11,600	21,000	12,400
Combined values of lime, sand and gravel						
(industrial), stone [dimension granite and						
limestone (2000)], and value indicated						
by symbol W	XX	44,100	XX	(6)	XX	(6)
Total	XX	1,460,000	XX	1,080,000	XX	1,300,000
Mississippi:						
Clays:						
Bentonite	W	W	155 ^e	4.900 e	W	W
Common				,		
	484	2,200	461	2,040	496	2,210
Fuller's earth	371	30,100	385	32,100	411	29,900
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	11,700	60,900	13,700	70,100	13,600	73,200
Stone, crushed	2,530 5	23,700 5	2,140 5	21,500 5	2,620	27,900
Combined values of cement (portland), clays (ball),						
sand and gravel (industrial), stone [crushed marl						
(2000-01)], and values indicated by symbol W	XX	51,700	XX	46,300	XX	44,600
732						
Total	XX	169,000	XX	177,000	XX	178,000
Missouri:						
Cement:						
Masonry	W	W	111	9,680 ^e	W	W
Portland	4,880	372,000 e	4,720	346,000 e	4,820	333,000
Clays:						
Common	1,050	3,240	1,030	3,420	1,050	3,930
Fire	351	4,630	289	3,610	340	
		· · · · · · · · · · · · · · · · · · ·				7,360
Copper ³	W	W	4	7,490	W	W
Lead ³ metric tons	W	W	281,000	270,000	W	W
Sand and gravel, construction	10,700	41,700	10,900	45,800	10,000	42,300
Silver ³ metric tons	W	W	144	20,300	W	W
Stone, crushed	75,600	365,000	82,000	411,000	74,100	380,000
Zinc ³ metric tons	W	W	43,600	42,300	W	W
Combined values of clays (fuller's earth),			,	,		
gemstones, iron oxide pigments [crude (2000-2001)],						
lime, sand and gravel (industrial), stone						
(dimension granite), and values indicated by						
symbol W	XX	516,000	XX	165,000	XX	494,000
Total	XX	1,300,000	XX	1,320,000	XX	1,260,000
Montana:						
Clays, bentonite	W	W	252	16,200	181	14,900
						424
Gemstones	NA 0.210	267	NA	320	NA	
Gold ³ kilograms	9,310	83,800	W	W	W	W
Lead ³ metric tons	W	W	7,290	7,020	W	W
Palladium ³ kilograms	10,300	228,000	12,100	237,000	14,800	162,000
Platinum ³ do.	3,110	54,900	3,610	61,900	4,390	76,500
Sand and gravel, construction	9,950	40,600	14,600	67,200	16,700	76,000
Sand and graver, consumerion						

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TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE $^{\!1,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	200		200		200	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
MontanaContinued:						
Stone:						
Crushed	3,070	12,600	3,070	12,400	2,370	10,000
Dimension metric tons	W	W	8,990	2,400	11,600	2,620
Zinc ³ do.	16,400	20,200	22,600	21,900	W	W
Combined values of cement, clays (common),						
copper (2000), garnet (industrial), lime, molybdenum						
concentrates (2000), peat, silver, talc (crude),						
and values indicated by symbol W	XX	140,000	XX	149,000	XX	129,000
Total	XX	580,000	XX	575,000	XX	471,000
		380,000	ΛΛ	373,000	ΛΛ	4/1,000
Nebraska:						
Cement:	***		***		***	
Masonry	W	(6)	W	(6)	W	(6
Portland	W	(6)	W	(6)	W	(6
Clays, common	133	338	133 ^e	338 ^e	133 ^e	338
Gemstones	NA	3	NA	3	NA	4
Lime	20	1,690	15	1,330	8	692
Sand and gravel:						
Construction	11,700	39,200	13,000	43,000	12,900	44,200
Industrial	W	(6)	W	(6)	W	, (
Stone, crushed	6,590	42,400	6,360	45,800	7,220	53,200
Total	XX	83,700	XX	90,400	XX	98,400
Nevada:	AA	83,700	AA	70,400	AA	70,400
Clays:		004	-	750		**
Bentonite	6	804	5	758	6	V 2 o T
Fuller's earth	28	3,870	28	3,870	28	3,870
Gold ³ kilograms	268,000	2,410,000	253,000	2,220,000	240,000	2,410,000
Sand and gravel:						
Construction	36,800	172,000	34,000	173,000	35,400	159,000
Industrial	609	W	609	W	615	11,000
Silver ³ metric tons	734	118,000	544	76,800	424	63,000
Stone, crushed	7,640	37,300	8,230	40,400	8,010	41,900
Zeolites metric tons	(6)	NA	(6)	NA	(6)	N.A
Combined values of barite, brucite, cement (portland),						
clays (kaolin), copper (2000-01), diatomite,						
gemstones, gypsum (crude), lead, lime, lithium						
carbonate, magnesite, mercury (2000), perlite						
	VV	250.000	VV	249.000	VV	220.000
(crude), salt, and values indicated by symbol W	XX		XX	248,000	XX	228,000
Total	XX	2,990,000	XX	2,760,000	XX	2,910,000
New Hampshire:						
Gemstones	NA	6	NA	8	NA	(
Sand and gravel, construction	8,660	41,400	8,630	43,300	8,640	41,600
Stone, crushed ³	3,740	15,700	4,230	18,200	4,730	24,100
Combined values of stone (crushed sandstone and						
dimension granite)	XX	(6)	XX	(6)	XX	(6
Total	XX	57,100	XX	61,500	XX	65,700
New Jersey:		-,,		0 - , - 0 0		,
Clays, common	W	130	W	W	W	V
Gemstones	NA	1	NA	1	NA	•
Sand and gravel:	11/71	1	11/1	1	11/7	
č	16 200	05.000	17,000	00 000	16,000	06.30
Construction	16,300	85,000	16,800	98,000	16,000	96,300
Industrial	1,690	35,700	1,580	34,800	1,420	32,700
Stone, crushed	24,900	170,000	26,400	184,000	20,500	127,000
Combined values of greensand marl, peat, and						
values indicated by symbol W	XX	(6)	XX	4,170	XX	3,910
Total	XX	291,000	XX	321,000	XX	260,000
New Mexico:		· · · · · · · · · · · · · · · · · · ·				
Clays, common	34	256	35	205	33	17:
Copper ³	195	380,000	141	239,000	112	187,000
Gemstones	NA		NA		NA	187,000
Gentiones See footnotes at end of table	NA	27	INA	33	NA	15

TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE $^{\!1,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

-	200	0	2001		001 2002	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
New MexicoContinued:						
Sand and gravel, construction	13,400	66,800	10,600	54,500	12,800	62,600
Stone:						
Crushed	3,690	22,400	4,230	26,100	36,700	23,300
Dimension metric tons	W	W	36,100	1,320	20,200	1,370
Zeolites do.	(6)	NA	(6)	NA	(6)	NA
Combined values of cement, gold (2000-01), gypsum (crude), helium [Grade-A (2002)], iron ore (usable), lime, mica [crude (2000-01)], molybdenum concentrates, perlite (crude), potash, pumice and						
pumicite, salt, sand and gravel [industrial (2000-01)],						
silver (2000-01), and value indicated by symbol W	XX	317,000	XX	276,000	XX	286,000
Total	XX	786,000	XX	597,000	XX	561,000
New York:						
Cement, portland	2,700	211,000 e	W	W	W	W
Clays, common	630	7,820	647	7,960	641	7,990
Gemstones	NA	64	NA	64	NA	65
Salt	5,440	218,000	5,570	215,000	4,610	185,000
Sand and gravel, construction	29,700	154,000	30,900	160,000	29,800	158,000
Stone:						
Crushed	48,800	304,000	53,700	353,000	56,500	391,000
Dimension metric tons	62,200	5,780	47,000	9,040	46,400	5,990
Zinc ³ do. Combined values of cement (masonry), garnet	W	W	23,300	22,600		
(industrial), gypsum (crude), lead (2000), peat, sand and gravel (industrial), talc (crude), wollastonite, and values indicated by symbol W Total	XX XX	124,000 1,020,000	XX XX	259,000 1,030,000	XX XX	243,000 991,000
North Carolina:						
Clays:						
Common	2,430	18,600	2,340	11,100	2,420	11,900
Kaolin	W	W	47 ^e	517 ^e	W	W
Feldspar metric tons	W	W	344,000	19,400	330,000	17,100
Gemstones	NA	372	NA	284	NA	280
Gypsum, crude			71	788		
Mica, crude metric tons	W	W	51,000	3,890	40,400	3,100
Sand and gravel:						
Construction	12,000	59,100	12,400	61,500	10,000	50,700
Industrial	1,480	28,300	1,300	26,000	1,320	25,600
Stone:						
Crushed	69,500	478,000	69,300	485,000	62,900	451,000
Dimension metric tons	40,500	16,800	41,500	18,200	41,300	17,900
Combined values of olivine, peat (2000-01), phosphate rock, pyrophyllite (crude), and values indicated by symbol W	VV	143,000	VV	106,000	VV	111 000
	XX vv		XX		XX	111,000
Total North Polyata:	XX	744,000	XX	733,000	XX	689,000
North Dakota:	70	117	(0	W	57	W
Clays, common	79	W	68	W	57	W
Gemstones	NA	3	NA 184	3	NA	4
Lime	176	7,010	184	6,360	W	W
Sand and gravel:	10.600	27.000	10.200	26.200	10.500	27.000
Construction	10,600	27,800	10,300	26,300	10,700	27,900
Industrial Collins of the first transfer of	1	W	W	W	W	W
Combined values of stone [crushed granite, limestone, volcanic cinder, miscellaneous (2002) and crushed limestone, volcanic cinder, miscellaneous (2001-02)]						
and values indicated by symbol W	vv	410	vv	(22	VV	0.540
	XX vv	410	XX	623	XX	8,540
Total Control of the	XX	35,200	XX	33,300	XX	36,500

TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE $^{\!1,\,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	200		200		200	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
Ohio:						
Cement:						
Masonry	92	11,000 e	74	9,000 e	W	W
Portland	1,030	83,300 e	1,040	80,400 e	1,020	78,000 9
Clays, common	1,370	7,380	1,320	7,410	1,310	7,820
Gemstones	NA	3	NA	3	NA	4
Lime	1,850	106,000	1,900	114,000	1,630	98,100
Sand and gravel:						
Construction	51,200	256,000	50,400	256,000	48,700	250,000
Industrial	1,200	32,800	1,120	30,700	1,000	28,900
Stone:						
Crushed	73,600	327,000	75,900	339,000	72,600	329,000
Dimension metric tons	34,500	3,050	30,700	5,150	30,200	4,990
Combined values of clays (fire), gypsum (crude),						
peat, salt, and value indicated by symbol W	XX	172,000	XX	198,000	XX	176,000
Total	XX	999,000	XX	1,040,000	XX	973,000
Oklahoma:		,		, ,		,
Clays, common	757	2,060	783	1,910	1,030	2,250
Gemstones	NA	197	NA	197	NA	197
Gypsum, crude	2,830	23,500	2,630	21,300	2,520	18,500
Iodine, crude metric tons	1,470	21,500	1,290	18,400	1,420	21,600
Sand and gravel:	1,470	21,300	1,270	10,400	1,420	21,000
Construction	9,210	35,500	11,000	43,700	10,200	41,300
Industrial	1,480					
Stone:	1,460	30,700	1,360	28,200	1,320	28,400
	20.200	160,000	41.600	170,000	45,000	107,000
Crushed	39,300	168,000	41,600	179,000	45,000	196,000
Dimension metric tons	5,910	1,530	16,500	2,190	16,500	2,100
Tripoli do.	W	W	11,700	2,100	12,700	2,290
Combined values of cement, feldspar, helium, lime,						
salt, and value indicated by symbol W	XX	190,000 r	XX	181,000	XX	160,000
Total	XX	473,000	XX	478,000	XX	473,000
Oregon:						
Clays, common	227	632	237	662	237	662
Gemstones	NA	856	NA	1,170	NA	1,340
Sand and gravel, construction	16,500	97,000	17,300	99,200	19,500	116,000
Stone, crushed	20,800	98,900	20,800	100,000	19,800	101,000
Zeolites metric tons	(6)	NA	(6)	NA	(6)	NA
Combine value of cement (portland), clays						
(bentonite), diatomite, emery (2002), lime, perlite						
(crude), pumice and pumicite, talc (crude)	XX	102,000	XX	103,000	XX	101,000
Total	XX	299,000	XX	305,000	XX	320,000
Pennsylvania:						
Cement:						
Masonry	324	33,700 e	329	38,500 e	341	38,000
Portland	6,640	475,000 e	6,540	464,000 e	6,130	456,000
Clays, common	840	1,870	758	2,320	779	2,560
Gemstones	NA	1	NA	1	NA	1
Lime	1,350	93,900	1,280	86,500	1,230	87,600
Peat	6	183	9	206	3	132
Sand and gravel:	Ŭ	103		200	3	132
Construction	17,900	110,000	20,200	128,000	18,100	115,000
Industrial	W	(6)	20,200 W	(6)	16,100 W	(6)
Stone:	vv	(0)	vv	(0)	vv	(0)
Crushed	97,900	520,000	101 000	564,000	102,000	580,000
			101,000			
Dimension metric tons	49,500	12,100	50,400	11,600	36,700	11,900
Tripoli	W	(6)	W	(6)	W	1 200 000
Total	XX	1,250,000	XX	1,290,000	XX	1,290,000

See footnotes at end of table.

TABLE 5--Continued NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE $^{\!1,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	200		2001		2002	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
Rhode Island:						
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	1,240	9,780	1,200	9,220	1,760	14,100
Industrial	104	(6)	138	(6)	157	(6)
Stone, crushed	1,860	10,600	1,930	11,100	1,780	11,400
Total	XX	20,300	XX	20,300	XX	25,500
South Carolina:						
Cement:						
Masonry	411	45,500 e	487	52,600 e	426	41,000 e
Portland	2,910	210,000 ^e	2,560	165,000 ^e	2,510	176,000 e
Clays:						
Common	890	2,790	1,050	4,150	1,020	3,360
Fire	40	50	42	53	53	739
Kaolin	397	21,900	377	22,800	374	21,400
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	10,300	40,800	10,500	36,900	10,300	35,500
Industrial	755	18,600	694	15,900	831	16,400
Stone:						
Crushed	29,400	189,000	26,700	161,000	25,700	165,000
Dimension metric tons	W	W	9,230	855	9,230	850
Combined values of lime (2000), mica (crude),						
vermiculite, and value indicated by symbol W	XX	21,900	XX	(6)	XX	(6)
Total	XX	551,000	XX	459,000 ^r	XX	460,000
South Dakota:						
Clays, common	191	W	200	W	208	W
Gold ³ kilograms	8,230	74,200	\mathbf{W}	W	W	W
Sand and gravel, construction	12,800	46,500	11,200	41,500	11,900	47,500
Silver ³ metric tons	3	403	\mathbf{W}	W	W	W
Stone, crushed	5,460	25,500	5,850	27,200	6,780	33,600
Combined values of cement [masonry (2000),						
portland], feldspar, gemstones, gypsum (crude),						
iron ore (usable), lime, mica (crude), stone						
(dimension granite), and values indicated by						
symbol W	XX	86,400	XX	200,000	XX	135,000
Total	XX	233,000	XX	268,000	XX	216,000
Tennessee:						
Clays:						
Ball	685	29,300	680	28,800	660	28,100
Common	W	W	304	251	262	1,540
Sand and gravel:						
Construction	8,760	47,000	8,350	46,400	9,220	51,900
Industrial	W	W	W	22,900	1,070	25,700
Stone, crushed	60,100	353,000	58,600	344,000	54,900	330,000
Combined values of barite (2000-01), cement,						
clays (fuller's earth, kaolin), gemstones, lead						
(2001), lime, salt, silver (2001), stone (dimension						
marble), zinc, and values indicated by symbol W	XX	298,000	XX	266,000	XX	212,000
Total	XX	728,000	XX	709,000	XX	648,000
Texas:						
Cement:						
Masonry	268	28,800 e	291	32,700 e	294	36,000 e
Portland	9,270	683,000 e	10,400	745,000 ^e	10,500	740,000 6
Clays:						
Common	2,210	9,460	2,120	8,750	2,160	21,200
Fuller's earth	W	W	29 ^e	2,270 e	W	W
Kaolin	W	W	W	W	39	8,420
Gemstones	NA	11	NA	12	NA	12
Gypsum, crude	1,760	8,980	W	W	2,060	13,400
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)

	200		200		200	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
TexasContinued:						
Helium, crude million cubic meters	W	W	9	9,320	W	V
Lime	1,600	105,000	1,610	108,000	1,530	98,400
Salt	10,800	104,000	9,370	104,000	9,100	103,000
Sand and gravel:						
Construction	80,800	408,000	82,900	405,000	82,600	413,000
Industrial	1,750	45,200	1,850	70,000	1,670	62,20
Stone:						
Crushed	121,000	496,000	130,000	624,000	113,000	543,000
Dimension metric tons	84,700	11,500	85,900	12,600	65,300	12,20
Talc, crude do.	212,000	3,580	224,000	4,070	W	V
Zeolites do.	(6)	NA	(6)	NA	(6)	N/
Combined values of brucite, clays (ball, bentonite),						
helium (Grade-A), and values indicated by symbol W	XX	44,900	XX	35,100	XX	40,000
Total	XX	1,950,000	XX	2,160,000	XX	2,090,00
Utah:						
Beryllium concentrates metric tons	4,510	5	2,480	3	1,970	
Clays:						
Bentonite	W	W	51	W	W	V
Common	335	5,380	360	5,490	349	5,01
Gemstones	NA	1,030	NA	1,020	NA	23
Salt	2,110	108,000	2,300	121,000	2,090	113,00
Sand and gravel, construction	30,900	109,000	28,400	109,000	27,600	104,00
Stone, crushed Combined values of cement (portland), copper,	8,400	40,700	8,430	40,500	7,640	38,10
phosphate rock, potash, silver, stone [dimension quartzite and sandstone (2000), dimension sandstone (2001-02)], and values indicated	VV	1 160 000	vv	1 000 000	VV	000 00
by symbol W	XX	1,160,000	XX	1,090,000	XX	980,00
Total Vermont:	XX	1,430,000	XX	1,360,000	XX	1,240,00
Gemstones	NA	1	NA	1	NA	
	4,140	18,800	4,570	20,000	4,990	22,20
Sand and gravel, construction	4,140	18,800	4,570	20,000	4,990	22,20
Stone: Crushed	5 210	21.500	4.050	24 200	4.260	21.20
	5,210	21,500	4,950	24,300	4,360	21,30
Dimension metric tons	103,000	26,600	98,000	26,500	101,000	27,00
Talc, crude do.	W	(6)	W	(6)	W	70.60
Total	XX	66,900	XX	70,800	XX	70,60
Virginia:	1.010	2 200	027	1.040	027	2.22
Clays, common	1,010	2,380	937	1,840	827	3,32
Kyanite ^e	90	13,400	90	13,400	90	13,40
Sand and gravel, construction	12,100	63,200	11,800	64,400	10,500	60,00
Stone:	(7, (00	410.000	60.100	446,000	50.000	205.00
Crushed	67,600	418,000	69,100	446,000	58,900	395,00
Dimension metric tons	W	W	5,590	626	5,900	65
Combine values of cement, clays (fuller's earth), feldspar, gemstones, iron oxide pigments (crude), lime, sand and gravel (industrial), titanium (ilmenite), vermiculite, zirconium concentrates,						
and value indicated by symbol W	XX	206,000 r	XX	206,000	XX	218,00
Total	XX	703,000	XX	732,000	XX	690,00
Washington:		703,000	ΛΛ	132,000	ΛΛ	090,00
Clays, common	116	425	89	258	89	16
Gemstones	NA	423 37	NA	258 25	NA	2
Gold ³ kilograms	2,930	26,400	1,700	14,900	980	9,81
Sand and gravel, construction	41,800	20,400	41,400	220,000	43,200	223,00
<u> </u>				440,000		
Silver ³ metric tons	2	250			1	10

${\it TABLE 5--Continued} \\ {\it NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE}^{1,2}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	2000)	2001		2001 2002	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
WashingtonContinued:						
Stone, crushed	16,800	114,000	14,100	84,300	13,700	79,900
Combined values of cement (portland), diatomite,						
gypsum [crude (2000)], lime, magnesium metal						
(2000-01), olivine, peat, sand and gravel						
(industrial), stone (dimension miscellaneous)	XX	237,000	XX	178,000	XX	124,000
Total	XX	599,000	XX	498,000	XX	437,000
West Virginia:				<u> </u>		
Clays, common	199	560	167	462	151	407
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	1,980	9.800	1,820	9,260	1,700	8,450
Stone, crushed	14,100 5	60,000 5	15,300	65,700	14,400	63,400
Combined values of cement, lime, peat, salt, sand	,	,	,	,	- 1, 100	,
and gravel (industrial), stone [crushed dolomite						
(2000), dimension sandstone	XX	109,000	XX	102,000	XX	94,900
Total	XX	179,000	XX	177,000	XX	167,000
Wisconsin:		177,000	7121	177,000	7171	107,000
Cement, portland					W	(6)
Gemstones	NA	6	NA	6	NA	6
Lime	619	37,000	617	36,900	603	35,600
Peat	W	(6)	W	(6)	W	(6)
Sand and gravel:	**	(0)	**	(0)	**	(0)
Construction	39,600	150,000	41,600	159,000	39,000	154,000
Industrial	1,790	36,200	1,710	(6)	1,740	32,700
Silica stone ⁴ metric tons	W	(6)	1,710	(o) 	1,740	32,700
Stone:	**	(0)				
Crushed	35,100	143,000	36,600	150,000	36,200	151,000
Dimension metric tons	93,100	11,700	98,900	18,900	99,800	19,300
Total	XX	378,000	XX	365,000	XX	392,000
Wyoming:		378,000	ΛΛ	303,000	АЛ	392,000
Clavs:						
Bentonite	3,080	126,000	3,580	153,000	3,340	145,000
	· · · · · · · · · · · · · · · · · · ·	126,000	3,380 11 °	47 °		
Common	W NA	W 12	NA	12	33 NA	446 12
Gemstones						
Sand and gravel, construction	6,340	23,800	7,200	35,100	7,710	32,100
Stone, crushed	6,250	26,100	4,370	20,400	4,890	23,300
Combined values of cement (portland), gypsum						
(crude), helium (Grade-A), lime, soda ash and	3737	002 000	3737	006.000	3737	006 000
value indicated by symbol W	XX	802,000	XX	806,000	XX	806,000
Total	XX	978,000	XX	1,010,000	XX	1,010,000
Undistributed:						
Connecticut, Delaware, Hawaii, Maryland (2000-01),						
Massachusetts, Minnesota (2001-02), Nebraska,						
New Hampshire, New Jersey (2000), Pennsylvania,						
Rhode Island, South Carolina (2001-02), Vermont,						
Wisconsin, Undistributed (2000, 2002)	XX	157,000	XX	231,000	XX	207,000

^eEstimated. ^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.

⁴Data collected by State.

⁵Excludes certain stones; kind and value included with "Combined value."

⁶Withheld to avoid disclosing company proprietary data; values included with "Undistributed."

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

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

(Thousand metric tons and thousand dollars unless otherwise specified)

	200	0	200	1	200	2
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
Puerto Rico:						
Cement, portland metric tons	1,660	\mathbf{W}	1,550	W	1,530	W
Clays, common	141	458	132	351	114,000	585
Lime	16	2,750	11	2,250	W	W
Salt	45	1,500	45	1,500	45	1,500
Sand and gravel, industrial	W	W	32	1,200	W	W
Stone, crushed	10,800	51,000	8,000	38,000	7,940	40,600
Combined values of stone (dimension marble),						
and values indicated by symbol W	XX	143,000	XX	(3)	XX	144,000
Total	XX	199,000	XX	43,300	XX	187,000
Administered Islands:						
American Samoa, stone, crushed, traprock					W	(3)
Guam, stone, crushed	121	856	477	1,900 e	846	8,370
Virgin Islands, stone, crushed limestone and traprock	W	(3)	W	(3)	W	(3)
Total	XX	856	XX	1,900	XX	8,370

^eEstimated. W Withheld to avoid disclosing company proprietary data; value included with "Combined values" data. 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.

${\it TABLE~7} \\ {\it U.S.~EXPORTS~OF~PRINCIPAL~MINERALS~AND~PRODUCTS, EXCLUDING~MINERAL~FUELS}^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

Min 1 d., /		2001		200	
Mineral or product		Quantity	Value	Quantity	Value
Metals:					
Aluminum:		4 500 000	2 200 000	1 700 000	2.1.00.000
	ric tons	1,590,000	3,390,000	1,590,000	3,160,000
Manufactures	do.	96,200	349,000	100,000	330,000
Antimony:					
Metal, alloys, waste and scrap	do.	1,730	3,080	992	2,500
Oxide, antimony content	do.	5,880	14,300	3,260	10,900
Arsenic metal, arsenic content	do.	57	8,070	100	11,100
Bauxite and alumina:					
Alumina, calcined equivalent		1,250	424,000	1,270	362,000
Bauxite:					
Calcined, refractory and other grade		14	3,160	15	2,130
Crude and dried		67	4,930	27	2,900
1 2 1 2 2	ric tons	42,300	32,500	28,900	20,900
	ograms	60,600	7,190	165,000	9,210
Bismuth, metal, alloys, and waste and scrap, bismuth content	do.	541,000	3,500	131,000	1,320
Cadmium:					
Metal, includes cadmium in alloys and scrap	do.	272,000	2,560	194,000	1,290
Sulfide, gross weight	do.	52,400	32 ^r	25,400	13
Chromium:					
Chemicals:					
Oxides, trioxides and other met	ric tons	13,400	36,900	10,800	23,400
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium dichromate					
potassium dichromate, other	do.	17,000	18,700	13,300	14,600
Sulfates	do.	13	200	93	365
Metals and alloys:					
Ferroalloys, high-carbon, low-carbon, ferrochromium-silicon	do.	16,400	12,500	15,900	10,100
Metal, unwrought powders, waste and scrap, other	do.	1,040	10,700	745	7,450
Pigments and preparations	do.	771	3,710	824	7,650
Cobalt:			,		
Metal:					
Unwrought, powders, waste and scrap, mattes, other intermediate products of					
metallurgy	do.	2,240	57,300	1,600	34,800
Wrought and cobalt articles	do.	741	25,500	923	26,600
Oxides and hydroxides	do.	1,260	10,200	558	7,040
Other forms, acetates and chlorides	do.	253	1,970	383	1,430
Columbium (niobium) and tantalum:	<u> </u>	200	1,570	303	1,.50
Columbium:					
Ferrocolumbium	do.	109	1,260	126	1,500
Ores and concentrates	do.	15	246	64	435
Tantalum:	<u>uo.</u>	13	240	04	433
Ores and concentrates, includes synthetic	do.	572	23,000	306	2,010
Unwrought, alloys, metal, powders, waste and scrap	do.	428	127,000	263	119,000
Wrought	do.	214	89,400	190	96,200
Copper:	<u>uo.</u>	214	67,400	170	70,200
Scrap, alloyed and unalloyed	do.	534,000	538,000	511,000	508,000
Semimanufactures		161,000 ^r	490,000 ^r	191,000	540,000
Unmanufactured, does not include unalloyed scrap, copper content	do.	118,000	180,000	,	
7 17 11	do.	118,000	180,000	99,600	157,000
Ferronbosphorous	do	2.500	1.740	1 250	860
Ferrogization	do.	2,590	1,740	1,250	
Ferrozirconium Ferrozilova other	do.	251 6 270	462	868 7.650	1,370
Ferroalloys, other	do.	6,270	10,200	7,650	7,430
Gold:		205.000	2 200 000	105.000	1 020 000
	ograms	395,000	3,300,000	185,000	1,830,000
Compounds	do.	490,000 ^r	13,000	417,000	8,550
Doré and precipitates	do.	93,900	804,000	71,700	720,000
Metal powder	do.	11,600	127,000	10,900	107,000
Ores and concentrates	do.	362 r	4,680 ^r	556	4,020
Waste and scrap	do.	40,300 r	468,000	85,800	507,000
Indium ^e met	ric tons	10	1,030	10	730

${\it TABLE~7--Continued} \\ {\it U.S.~EXPORTS~OF~PRINCIPAL~MINERALS~AND~PRODUCTS, EXCLUDING~MINERAL~FUELS}^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

	2001		1	2002		
Mineral or product		Quantity	Value	Quantity	Value	
MetalsContinued:						
Iron and steel:						
Cast iron and steel products		191	465,000 ^r	228	475,000	
Fabricated steel products		923	3,910,000 ^r	872	2,950,000	
Steel mill products		5,570	4,710,000 ^r	5,450	4,500,000	
Iron and steel scrap:						
Direct-reduced iron, steelmaking grade		1	83	1	100	
Ferrous, includes tinplate and template, excludes used rails for rerolling and other	uses,	7 440	1 120 000	0.050		
ships, boats, other vessels for scrapping		7,440	1,130,000	8,950	1,290,000	
Pig iron, all grades		44	5,580	34	4,910	
Ships, boats, and other vessels for scrapping		49	2,750	40	3,230	
Used rails for rerolling and other uses, includes mixed (new plus used) rails		36	14,400	12	4,680	
Iron ore		5,610	229,000	6,750	249,000	
Lead, lead content:		14.200	2 (40			
Ash and residues	metric tons	14,200	2,640	256	207	
Base bullion	do.	3,470	9,320	256	387	
Ore and concentrates	do.	181,000	77,400	241,000 106,000	87,200	
Scrap, gross weight	do.	108,000	24,900	,	23,300	
Unwrought and alloys	do.	17,000	12,900	31,400	19,700	
Wrought and alloys	do.	17,700	31,300	11,700	24,300	
Magnesium:		2.060	15 100	4.210	14.000	
Alloys, gross weight	do.	3,860	15,100	4,210	14,000	
Metal	do.	4,870	15,300	11,300	21,800	
Powder, sheets, tubing, ribbons, wire, other forms, gross weight	do.	3,890	23,700 18,600	4,010	27,400	
Waste and scrap	do.	6,950	18,000	5,850	14,700	
Manganese: Ferromanganese, all grades	do.	9,240	5 790	0.220	6 200	
Metal, including alloys, waste and scrap	do.	1,820	5,780 6,900	9,230 2,200	6,300 6,000	
Ore and concentrates with 20% or more manganese	do.	9,170	3,270	15,000	4,100	
Silicomanganese	do.	3,640	2,350	523	4,100	
Mercury	do.	108	851	201	1,050	
Molybdenum, molybdenum content:	uo.	108	651	201	1,030	
Chemicals:						
Oxides and hydroxides, gross weight	do.	940	6,660	1,670	11,800	
Molybdates, all	do.	1,180	9,670	1,350	8,910	
Ferromolybdenum	do.	629	6,440	676	6,970	
Ore and concentrates, including roasted and other	do.	27,800	110,000	19,500	112,000	
Other, includes powder, unwrought, wrought, wire, other, gross weight	do.	1,060	36,000	598	15,700	
Nickel. nickel content:	<u>uo.</u>	1,000	30,000	376	15,700	
Alloyed, bars, foil, pipes, profiles, rods, sheets, strip, tubes, unwrought						
ingot, wire, other, gross weight	do.	36,000	538,000	29,100	460,000	
Primary, chemicals and unwrought	do.	8,450	134,000	6,520	102,000	
Secondary, stainless steel scrap and waste and scrap	do.	48,600 ^r	325,000	39,400	304,000	
Wrought, not alloyed, bars, foil, pipes, profiles, rods, sheets, strips, tubes, wires	do.	2,400	27,500	2,570	33,100	
Platinum-group metals, metal content:		-,	,	_,-,-	,	
Iridium, osmium, ruthenium	kilograms	1,370	16,600	1,990	26,300	
Palladium	do.	36,800 r	489,000	42,700	350,000	
Platinum, includes waste and scrap	do.	42,200	713,000	45,500	578,000	
Rhodium	do.	982	59,900	348	12,500	
Rare-earths, estimated rare-earth oxide content:	40.	702	27,700	3.10	12,500	
Cerium compounds	do.	4,490,000	20,100	2,960,000	17,200	
Compounds	do.	1,680,000	18,300	1,430,000	21,600	
Ferrocerium and other pyrophoric alloys	do.	2,540,000	8,030	2,860,000	9,040	
Metals, including scandium and yttrium	do.	891,000	6,520	1,310,000	6,080	
Selenium, metal, waste and scrap, selenium content	do.	41,200	411	80,900	653	
Silicon, gross weight:	40.	.1,200		55,700	033	
Ferrosilicon	metric tons	23,300	28,500	12,700	10,600	
Metal	do.	12,700	263,000	15,200	305,000	
Con footmates at and of table	uo.	12,700	203,000	13,200	555,000	

See footnotes at end of table.

$\label{thm:table 7--Continued} U.S. \ EXPORTS \ OF \ PRINCIPAL \ MINERALS \ AND \ PRODUCTS, \ EXCLUDING \ MINERAL \ FUELS^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

		2001		2002		
Mineral or product		Quantity	Value	Quantity	Value	
MetalsContinued:						
Silver, silver content:						
Bullion	kilograms	707,000	96,300	624,000	97,900	
Doré	do.	18,200	2,640	22,700	3,360	
Metal powder, gross weight	do.	192,000	38,000	360,000	63,600	
Nitrate, gross weight	do.	143,000	17,900	81,200	9,560	
Ores and concentrates	do.	239,000	64,200	230,000	56,600	
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	nt do.	204,000	43,100	290,000	50,300	
Waste and scrap, gross weight	do.	1,810,000	426,000	2,380,000	555,000	
Unwrought, other, gross weight	do.	57,900	11,900	32,700	9,960	
Thallium, unwrought powders, waste and scrap, others	do.	NA	NA	651	167	
Thorium and thorium-bearing materials, compounds	do.	7,300	291	880	260	
Tin:						
Ingots and pigs	metric tons	4,350	21,200	2,940	14,800	
Tin scrap and other tin bearing material, except tinplate scrap, includes rods, profiles	S					
wire, powders, flakes, tubes, pipes	do.	27,500	33,200	24,500	32,200	
Tinplate and terneplate	do.	233,000	123,000	219,000	129,000	
Titanium:						
Ferrotitanium and ferrosilicon-titanium	do.	980	3,110	834	2,340	
Metal, wrought and unwrought	do.	20,200	387,000	17,600	338,000	
Ores and concentrates	do.	7,800	3,130	3,810	2,260	
Pigments, dioxide and oxides	do.	415,000	667,000	540,000	823,000	
Tungsten, tungsten content:	40.	.12,000	007,000	2.0,000	023,000	
Ammonium paratungstate	do.	257	2,000	69	596	
Carbide powder	do.	1,950	47,400	1,250	20,400	
Metal powders	do.	569	23,800	496	19,000	
Miscellaneous tungsten-bearing materials, ferrotungsten, ferrosilicon tungsten,	<u>uo.</u>	309	23,800	490	19,000	
unwrought, waste and scrap, wrought, other metal, compounds	do	2,090	79,200	1,400	28,600	
Ores and concentrates	<u>do.</u>					
	do.	220	5,550	94	2,990	
Vanadium:	1.11	262.000	6.000	520,000	11.700	
Aluminum-vanadium master alloy, gross weight	kilograms	363,000	6,990	529,000	11,700	
Ferrovanadium, vanadium content	do.	70,000	768	142,000	1,580	
Metal, including waste and scrap, gross weight	do.	26,300	380	49,200	898	
Pentoxide, anhydride, vanadium content	do.	670,000 ^r	2,850 ^r	453,000	2,070	
Other oxides and hydroxides, vanadium content	do.	385,000 ^r	2,760 ^r	443,000	3,710	
Zine:						
Compounds, chloride, compounds, n.s.p.f., oxide, sulfate	metric tons	22,700 ^r	29,900 ^r	21,500	27,000	
Ores and concentrates, zinc content	do.	696,000	285,000	822,000	322,000	
Rolled	do.	5,700	6,210	7,200	8,980	
Slab	do.	1,180	1,290	1,160	1,210	
Zirconium:						
Ore and concentrates	do.	66,900	35,700	47,100	24,600	
Oxide, includes germanium oxides and zirconium dioxides	do.	2,400	20,200	1,950	17,600	
Unwrought and waste and scrap	do.	186	3,160	3	9	
Total		XX	26,600,000 r	XX	23,500,000	
Industrial minerals:		-			, ,	
Abrasives, manufactured:						
Aluminum oxide, crude	do.	8,950	26,300	10,300	31,400	
Boron carbide	do.	32	685	NA	NA	
Metallic abrasives	do.	22,600	14,700	18,800	12,900	
Silicon carbide, crude, ground and refined	do.	10,500	10,900	13,700	12,300	
	uo.	10,500	10,900	13,700	12,300	
Asbestos, includes reexports:		NT A	200.000	N T A	207.000	
Manufactured	1	NA	298,000	NA	207,000	
Unmanufactured	do.	21,700	4,890	6,550	2,020	
Barite, natural barium sulfate	do.	44,800	5,330	47,200	4,230	
Boron minerals and compounds:						
Boric acid, includes orthoboric and anhydrous		85	47,000	84	44,600	
Sodium borates		221	91,700	150	63,100	
See footnotes at end of table						

$\label{thm:table 7--} TABLE~7\text{--}Continued \\ U.S.~EXPORTS~OF~PRINCIPAL~MINERALS~AND~PRODUCTS,~EXCLUDING~MINERAL~FUELS^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

		2001		2002	
Mineral or product	Quanti	ty Valu	ie Quant	tity	Value
Industrial mineralsContinued:					
Bromine:					
Compounds, includes methyl bromine and ethylene dibromide, bromine content metric t			*	5,750	13,600
Elemental			,	5,070	4,680
Cement, hydraulic and clinker		746 56	5,000	843	57,700
Clays:					
Ball			9,550	127	7,050
Bentonite			3,200	722	87,600
Fire			,500	251	22,800
Fuller's earth			3,600	60	8,670
Kaolin		440 567	7,000	3,350	536,000
Other, n.e.c., includes chamotte or dinas earth, activated clays and earths,		227 127	7 000	440	156,000
artifically activated clays			7,000	449	156,000
Diamond, includes reexports, excludes industrial diamond thousand ca	rais 9,	010 4,050	7,000 14	1,300	4,400,000
Diamond, industrial (exports and reexports):	1- 05	100 (7	7 400 90	700	50,000
Powder, dust and grit, natural and synthetic			*	9,700	58,900
Unworked			*	2,430	19,800
Diatomite Feldspar metric t			7,800 1,410 9	128 9,590	40,400 1,370
Feldspar metric t Fluorspar					3,540
<u> </u>	<u>do.</u> 21,		3,240 24 3,270	1,300 10	8,600
Graphite natural and artificial ² metric t	01			1,700	99,600
Graphice; natural and artificial	ons 91,	900 100	7,000 81	.,/00	99,600
Gypsum and gypsum products: Boards		61 24	1 200	61	33,700
Crude			1,800 2,900	61 341	16,500
Plasters			*	186	31,400
Other			3,200 3,400	XX	20,200
Helium, Grade-A million cubic me			7,500	40	73,400
Iodine:	<u></u>	43 //	,500	40	73,400
Crude/resublimed metric t	ons 1	460 17	7,200 1	1,430	17,100
Potassium iodide	$\frac{\overline{\text{do.}}}{\text{do.}}$	24	452	85	1,170
Iron oxide pigments and hydroxides:	<u>uo.</u>	27	432	0.5	1,170
Pigment grade	do. 9,	100 16	5,800	5,270	12,100
Other grade			*	1,400	45,100
Lime	<u>uo.</u> 50,		1,900	106	13,100
Lithium chemicals:		,,	,,,,,,,,	100	15,100
Carbonate	do. 3,	200 10),600	3,870	12,600
Hydroxide			*	5,400	20,600
Magnesium compounds:			,,,,,,	,	,
Compounds, chlorides, hydroxide and peroxide, sulfates	do. 31,	200 18	3,800 29	9,900	17,400
Magnesite, crude and processed:	<u> </u>		,	,	.,
Caustic-calcined magnesia	do. 3,	750 2	2,960 5	5,540	3,390
<u> </u>			,	9,100	2,310
Dead-burned and fused magnesia				2,700	22,900
Other magnesia				,900	22,000
Mica:					ĺ
Scrap and flake:					
Powder	do. 7,	410 3	3,900	7,760	4,060
Waste		890 г		2,050	686
Sheet:					
Unworked	do.	55 ^r	160 ^r	38	108
Worked			5,600	685	12,400
Peat			3,000	32	2,990
Perlite, processed and expanded ^e metric t	ons 43,			2,000	1,530
Phosphate rock		9 ^r	W	39	W
Pumice and pumicite		27 12	2,000	30	11,000
Salt			3,000	689	31,600

See footnotes at end of table.

${\it TABLE~7--Continued} \\ {\it U.S.~EXPORTS~OF~PRINCIPAL~MINERALS~AND~PRODUCTS, EXCLUDING~MINERAL~FUELS}^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

	·	200	1	2002	
Mineral or product		Quantity	Value	Quantity	Value
Industrial mineralsContinued:					
Sand and gravel:					
Construction:					
Gravel		514	2,860	596	4,230
Sand		2,550	16,200	2,640	19,200
Industrial		1,540	163,000	1,410	145,000
Silica:					
Quartz crystal, cultured, electronic- and optical-grade, excludes mounted					
piezoelectric crystals	metric tons	39 ^r	10,600	53	11,000
Special silica stone products		NA	5,800	NA	7,300
Soda ash		4,090	487,000	4,250	500,000
Stone:					
Crushed		4,370	35,600	2,560	54,000
Dimension		XX	73,500	XX	64,000
Strontium:					
Carbonate, precipitated	metric tons	446	551	115	244
Oxide, hydroxide, peroxide	do.	923	528	377	219
Sulfur:					
Elemental		675	48,800	687	40,000
Sulfuric acid, 100% H ₂ SO ₄	metric tons	210,000	15,900 ^r	147,000	12,800
Talc, excludes powders, talcum in (package), face, compact		137	28,800	166	35,700
Vermiculite ^e		7	916	10	1,300
Wollastonite ^e		3,000	1,200	4,750	1,900
Zeolites ^e	metric tons	150	30	150	30
Total		XX	7,080,000 ^r	XX	7,230,000
Grand total		XX	33,700,000 ^r	XX	30,700,000

^eEstimated. ^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data. XX Not applicable.

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

²Artificial graphite includes large amounts of materials made from petroleum coke.

 ${\it TABLE~8} \\ {\it U.S.~IMPORTS~FOR~CONSUMPTION~OF~PRINCIPAL~MINERALS~AND~PRODUCTS, EXCLUDING~MINERAL~FUELS}^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

AC 1 .		200		2002 Quantity 4,060,000 227,000 4,050 1,310 23,200 1 879 24,700 3,010 237 7,340 23,500 507,000 1,930,000 24,700 6,710 261 19,400 76 112,000 345,000 7,430 9,130 526 6,800 1,300 2,580 6,200 22 935	
Mineral or product		Quantity	Value	Quantity	Value
Metals:					
Aluminum:		2 740 000	(250 000	4.060.000	(4(0,000
Crude and semicrude	metric tons	3,740,000	6,250,000	/ /	6,460,000
Manufactures	do.	184,000	484,000	227,000	541,000
Antimony:		12 (00	15 700	4.050	6.070
Metal	do.	12,600	15,700		6,870
Ore and concentrate, antimony content	do.	2,290	3,440		3,050
Oxide, antimony content	do.	23,000	39,500	23,200	46,700
Arsenic:		2	2		4
Acid	do.	2	7 200		2 200
Metal	<u>do.</u>	1,030	7,390	8/9	3,390
Sulfide	do.	(2)	5	24.700	12 (00
Trioxide	do.	31,500	15,900	24,700	12,600
Bauxite and alumina:		2.100	704.000	2.010	(22.000
Alumina, calcined equivalent		3,100	704,000	3,010	633,000
Bauxite:		2.42	21 (00	227	20.200
Calcined, refractory and other grade		242	21,600		20,300
Crude and dried		8,300	190,000		147,000
Speciality aluminum compounds, sulfate, chloride, fluoride-based	metric tons	26,700	16,500		15,000
Beryllium, ore, metal, and compounds	kilograms	838,000	5,620		3,420
Bismuth, metallic	do.	2,220,000	18,400	1,930,000	12,200
Cadmium:					
Metal	do.	107,000	1,830		978
Sulfide, gross weight	do.	7,550	62 ^r	6,710	88
Chromium:		2.5	• • • • •	261	2.760
Carbide	metric tons	267	2,900	261	2,760
Chemicals:					
Oxides, trioxides and other	do.	13,300	27,700	19,400	34,100
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium d					
potassium dichromate, other	do.	15,200	8,600	,	10,700
Sulfates	do.	155	151		90
Chromite ore	do.	189,000	11,600	112,000	6,730
Metals and alloys:					
Ferroalloys, high-carbon, low-carbon, ferrochromium-silicon	do.	271,000	112,000		135,000
Metal, unwrought powders, waste and scrap, other	do.	8,190	50,100		42,900
Pigments and preparations based on chromium	do.	8,510	25,500	9,130	23,700
Cobalt:					
Metal:					
Alloys, articles, matte, wrought, waste and scrap	do.	892	25,400		14,700
Unwrought, excluding alloys and waste and scrap	do.	7,910	183,000		114,000
Oxide and hydroxides	do.	1,280	25,700		20,000
Other forms, includes acetates, carbonates, chlorides, sulfates	do.	2,150	11,000	2,580	10,500
Columbium (niobium) and tantalum:					
Columbium:					
Ferrocolumbium	do.	6,890	61,500	6,200	52,500
Ores and concentrates	do.	126 ^r	1,740 ^r		326
Oxide	do.	1,940	30,000	935	14,600
Unwrought, alloys, metals, powder	do.	1,050	26,700	673	19,000
Tantalum:					
Ores and concentrates, includes synthetic concentrates	do.	2,240 ^r	95,700 ^r	2,400	83,500
Unwrought, alloys, metal, powders, waste and scrap	do.	1,220	136,000	500	51,000
Wrought	do.	62	40,100	51	10,900
Copper:					
Scrap, alloyed and unalloyed	do.	91,100	144,000	80,300	128,000
Semimanufactures	do.	385,000 r	831,000 r	386,000	739,000
Unmanufactured, does not include unalloyed scrap, copper content	do.	1,310,000	2,330,000	1,150,000	1,960,000
Ferroalloys not listed elsewhere:					
Ferrophosphorus	do.	10,300	2,440	9,470	1,670
Ferrozirconium	do.	240	501	167	295
Ferroalloys, other	do.	25,000	30,900	20,700	24,500
Can factuates at and of table	40.		,,	_0,,00	= .,500

See footnotes at end of table.

${\it TABLE~8--} Continued\\ {\it U.S.~IMPORTS~FOR~CONSUMPTION~OF~PRINCIPAL~MINERALS~AND~PRODUCTS,~EXCLUDING~MINERAL~FUELS}^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product		Quantity	Value	Quantity	Value
MetalsContinued:					
Gallium, unwrought and waste and scrap	do.	27,100	24,200	13,100	3,550
Germanium materials, gross weight	kilograms	8,240	7,840	13,100	6,410
Gold:		222 5	2.700		
Ash and residues	do.	223 r	3,700		
Bullion, refined	do	161,000	1,420,000	172,000	1,740,000
Compounds	do.	2,240 ^r	6,590	18,100	952
Doré and precipitates	do.	31,100	211,000	42,200	334,000
Metal powder	do.	9,450 ^r	83,200	10,700	93,500
Ores and concentrates	do.	1,260 ^r	1,300	2,720	27,700
Waste and scrap	do.	26,400	55,800	11,900	74,400
Indium, unwrought and waste and scrap	do.	79,400	7,670	112,000	7,750
Iron and steel:		702	440 000 5	5.00	445.000
Cast iron and steel products		583	419,000 r	569	445,000
Fabricated steel products		3,930	6,030,000 r	4,240	6,160,000
Stainless steel	metric tons	632,000	1,580,000 ^r	609,000	1,540,000
Steel mill products		27,300	11,500,000 ^r	29,600	12,100,000
Iron and steel scrap:		1 (70)	1.15.000	2010	105.000
Direct-reduced iron, steelmaking grade		1,650 ^r	145,000	2,010	195,000
Ferrous, includes tinplate and ternplate, excludes used rails for rerolling and other uses	,				
ships, boats, other vessels for scrapping		2,630	274,000	3,130	376,000
Pig iron, all grades		4,370	479,000	4,620	527,000
Ships, boats, and other vessels for scrapping		(2)	15	(2)	5
Used rails for rerolling and other uses, includes mixed (new plus used), rails		175	23,700	195	26,900
Iron ore		10,700	293,000	12,500	313,000
Lead, lead content:					
Ore and concentrates	metric tons	2,240	449	6	8
Pigments and compounds, gross weight	do.	34,500	45,900	33,300	44,200
Pigs and bars	do.	271,000	143,000	210,000	107,000
Scrap, reclaimed, includes ash and residues	do.	10,200 ^r	4,350 ^r	2,570	1,740
Wrought, all forms, including wire and powders, gross weight	do.	12,500	19,000	7,990	16,200
Magnesium:					
Alloys, magnesium content	do.	35,400 ^r	95,400 ^r	41,900	109,000
Metal	do.	20,100	43,200	29,900	63,900
Powder, sheets, tubing, ribbons, wire, other forms, magnesium content	do.	2,860 ^r	14,100	2,090	12,200
Waste and scrap	do.	11,000	19,200	14,100	20,900
Manganese, manganese content:					
Chemicals, manganese dioxide and potassium permanganate, gross weight	do.	39,900	58,600	38,200	53,500
Ferromanganese, all grades	do.	200,000	112,000	218,000	124,000
Metal, unwrought, waste and scrap, other, gross weight	do.	21,600	29,300	29,600	27,100
Ore and concentrates with 20% or manganese, all grades	do.	199,000	28,000	214,000	29,200
Silicomanganese	do.	177,000	113,000	165,000	111,000
Mercury	do.	100	816	209	889
Molybdenum, molybdenum content:					
Chemicals, gross weight:					
Oxides and hydroxides	do.	1,010	5,370	1,210	7,500
Molybdates, all	do.	3,050 ^r	15,300	2,170	12,500
Orange	do.	1,120	5,050	1,300	5,330
Ferromolybdenum	do.	3,580	21,000	3,590	30,900
Ore and concentrates, including roasted and other	do.	6,010	32,800	4,710	36,700
Other, includes powder, waste and scrap, unwrought, wire, other, gross weight	do.	1,000	13,500	879	16,000
Nickel, nickel content:					
Alloyed, bars, foil, pipes, profiles, rods, sheets, strip, tubes, unwrought ingot, wire, other	er,				
gross weight	do.	20,400	299,000	18,800	241,000
Primary, chemicals and unwrought	do.	136,000	950,000	121,000	864,000
Secondary, stainless steel scrap and waste and scrap	do.	8,760	69,900	9,110	67,400
Wrought, not alloyed, bars, foil, pipes, profiles, rods, sheets, strips, tubes, wire	do.	1,140	19,000	879	14,800

${\bf TABLE~8--Continued}\\ {\bf U.S.~IMPORTS~FOR~CONSUMPTION~OF~PRINCIPAL~MINERALS~AND~PRODUCTS,~EXCLUDING~MINERAL~FUELS^1}$

(Thousand metric tons and thousand dollars unless otherwise specified)

No. 1		200		200	
Mineral or product		Quantity	Value	Quantity	Value
MetalsContinued:					
Platinum-group metals, metal content:	Irila arama	2 110	20.200	2 100	20.100
Iridium, unwrought and other forms Osmium, unwrought	kilograms	3,110 77	30,300 646	2,100 36	20,100 294
Palladium, unwrought and other	do.	160,000	3,230,000	117,000	1,160,000
Platinum	do.	84,200	1,430,000	160,000	1,400,000
Rhodium, unwrought and other forms	<u>do.</u>	12,400	594,000	8,630	288,000
Ruthenium, unwrought	do.	8,170	30,700	9,890	21,400
Rare-earths, estimated rare-earth oxide content:		2 070 000	20.200	2 5 40 000	10.10
Cerium compounds, including oxides, hydroxides, nitrates, sulfate chlorides, oxalates	do	3,870,000	28,300	2,540,000	19,10
Compounds, including oxides, hydroxides, nitrates, other compounds except chlorides	do	9,150,000	73,000	7,260,000	49,20
Ferrocerium and other pyrophoric alloys	do	118,000	1,470	89,500	1,22
Metals, whether intermixed or alloyed	do	1,420,000	14,400	1,460,000	9,99
Mixtures of rare-earth chlorides, except cerium chloride	do.	2,590,000	9,060	1,800,000	5,60
Mixtures of rare-earth oxides except cerium oxide	do.	2,040,000	9,160	1,040,000	4,51
Yttrium compounds content by weight greater than 19% but less than		77 000	1210	44.000	2.05
85% oxide equivalent	do.	77,900	4,310	44,000	3,87
Rhenium:		4.500	2 (10 *	2 220	2.72
Ammonium perrhenate	do.	4,560	3,610 ^r	3,330	2,72
Metal	do.	20,200	18,300	14,300	14,70
Selenium and tellurium:					
Selenium, selenium content:					
Selenium dioxide	do.	14,600	153 ^r	11,500	12
Unwrought and waste and scrap	do.	468,000	3,490	311,000	2,82
Tellurium, unwrought, and waste and scrap, gross weight	do.	28,000	1,630	25,300	1,57
Silicon, gross weight:					
Ferrosilicon	metric tons	176,000	110,000	207,000	120,00
Metal	do.	120,000	200,000	146,000	237,00
Silver, silver content:					
Ash and residues	kilograms	38,000	6,390	63,500	11,60
Bullion	do.	2,940,000	425,000	4,020,000	593,00
Doré	do.	151,000	25,800	16,600	4,43
Metal powder, gross weight	do.	24,500 ^r	6,250 ^r	12,100	2,54
Nitrate, gross weight	do.	26,000	1,490	572	10
Ore and concentrates	do.	7,550	2,750	61,000	13,10
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	do.	154,000	21,600	289,000	37,80
Waste and scrap, gross weight	do.	1,110,000	159,000	816,000	117,00
Unwrought, other, gross weight	do.	249,000	44,800 r	263,000	38,70
Thallium, unwrought powders, waste and scrap, others	do.	2,110	182	307	7
Thorium and thorium-bearing materials, compounds	do.	1,850	68	650	2
Tin, gross weight:		,			
Compounds	metric tons	375	3,180	449	3,23
Dross, skimmings, scrap, residues, alloys, n.s.p.f.	do.	5,920	10,900	2,280	7,17
Metal, unwrought	do.	37,500	174,000	42,200	167,00
Miscellaneous, includes tinfoil, tin powder, flitters, metallics, manufactures, n.s.p.f.	do.	NA	2,940	NA	1,51
Tinplate and terneplate	do.	344,000	199,000	254,000	143,00
Tinplate scrap	do.	5,900	1,040	12,800	1,82
Titanium:	<u>uo.</u>	3,700	1,040	12,000	1,02
Concentrates:					
Ilmenite	do.	467,000	37,400	395,000	41,30
Rutile, natural and synthetic		324,000	128,000	393,000	149,00
Ferrotitanium and ferrosilicon-titanium	do.				9,96
	do	4,120	10,800	3,700	9,90
Metal:					
Unwrought:	J.	2.260	25 500	1 210	17.00
Ingots and billets	<u>do.</u>	2,360	35,500	1,210	17,80
Other, includes blooms, sheet, bars, slabs, other unwrought	<u>do.</u>	522	3,580	392	1,56
Powder	<u>do.</u>	160	1,840	75	1,12
Sponge	do.	13,300	86,200	10,700	72,20
Waste and scrap	do.	11,600	40,800 ^r	6,270	17,80

${\it TABLE~8--} Continued\\ {\it U.S.~IMPORTS~FOR~CONSUMPTION~OF~PRINCIPAL~MINERALS~AND~PRODUCTS, EXCLUDING~MINERAL~FUELS}^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

			200	1	2002		
Timumic Continued:	Mineral or product		Quantity	Value	Quantity	Value	
Windless products, bars, cestings, foil, pipes, plates, profiles, rods, sheet, strip, tubes, wine, other of the programs, dioxides and oxides do. 34,000 23,000 36,000 37,000 36,000 37,000 36,000 37,000 36,000 37,000 36,000 37,000 36,000 37,000 36,000 37,000 36,000 37,000 36,0	MetalsContinued:						
Tables wire, other							
Pignents, dioxides and oxides 0.0 0.			2.150	72 000	•		
Siag	· · · · · · · · · · · · · · · · · · ·					62,500	
Triangient, imagenic moment	•					375,000	
Tungstan, tungstan content:						194,000	
Administration		do.	33,300	6,500	30,000	3,330	
Performingsten and Ferrosilicon tungsten Miscellancous patherials, metal powders, carbide powder unwrought, waste and scrap, wrought wire, plate, sheet, strip, foil, other, oxides, calcium tungstate, other tungstates, other compounds do. Orse and concentrates do. Orse and		do	2.720	24 500	2.400	16,300	
Miscellaneous tungstane-bearing materials, metal powders, earbide powder unwought, wate and scrap, wought wire, plate, sheet, strip, foll, other, oxides, calcium tungstate, other tungstates, other compounds	1 6					2,930	
umwought, waste and scrap, wrought wire, plate, sheet, strip, foil, other wiskes, calcium tungstate, other tungstates, other compounds do 5,080 78,000 3,630 2,620 Ores and concentrates do 2,680 19,500 4,090 2 Variatium: dilograms 10,100 4,50 25,000 2,500,000 2,500,000 1 Every wasted and steral, gross weight do 5,500,000 2,500,000 2,500,000 2,500,000 1 Metal, including waste and steral, gross weight do 6,000,000 3,400 2,500,000 1 4,500,000 4,500,00		<u>uo.</u>	332	2,170	400	2,930	
oxides, calcium tungstater, other compounds do. 5,880 78,000 3,630 5 Vanadium: Aluminum-vanadium master alloy, gross weight kilograms 10,100 45 97,500 2 Perrovanadium, vanadum content do. 2,550,000 20,500 2,250,000 1 Metal, including waste and scrap, gross weight do. 93,800 623 32,200 1 Miscellancous chemicals, sulfacts and vanadates, vanadium content do. 93,800 633 33,000 2 Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, vanadium pentoxide content do. 61,40,000 3,400 3,330,000 3,450 3,500,000 3,450 3,500,000 3,450 3,500,000 3,450 3,500,000 3,450,000 3,45,000 3,150 6							
Ors and concentrates		do	5.080	78 000	3 630	56,700	
Nandamme Nandamme						24,500	
Aluminum-vanadium master alloy, gross weight Rilograms Content Conte			2,000	15,000	.,0,0	2.,00	
Ferrovanadium, vanadium content		kilograms	10,100	45	97.500	206	
Metal, including waste and scrap, gross weight Miscellaneous chemicals, sulfates and vanadates, vanadium content do. 93,800 623 62,200 Pentoxide, anhydride, vanadium content do. 60,000 3,460 406,000 Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, vanadium-pentoxide content do. 57,200 510 42,300 Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, vanadium-pentoxide content do. 57,200 510 42,300 Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, vanadium-pentoxide content do. 57,200 510 42,300 Vanadium-bearing ash, residues, and hydroxides, vanadium content do. 57,200 510 42,300 Vanadium-bearing ash, residues, and hydroxides, vanadium content do. 57,200 510 42,300 Value Value						19,400	
Miscellaneous chemicals, sulfates and vanadates, vanadium content	,					1,27	
Pentoxide, anhydride, vanadium content do. Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, vanadium pentoxide content do. Other oxides and hydroxides, vanadium content do. S7,200						84:	
Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, vanadium pentoxide content						1,99	
wandum pentoxide content do. 6,140,000 ° 3,400 3,330,000 Cher oxides and hydroxides, vanadium content do. 57,200 ° 510 42,300 Zince Compounds, lithopone, chloride, compounds n.s.p.f., hydrosulfite, oxide, sulfate metric tons 90,900 76,400 91,600 6 Ore and concentrates, zinc content do. 81,000 77,400 11,600 4 Rolled do. 7,240 10,400 1,640 7 Slab, refined do. 813,000 77,000 874,000 71 Zirconium and hafnium: Hafritum, unwrought, and waste and scrap do. 5 1,300 5 1 Zirconium, oxe and concentrates do. 0,060 21,600 85,300 1 Zirconium, unwrought and waste and scrap do. 7,75 45,000 53,300 1 Zirconium, unwrought and waste and scrap do. 7,75 45,000 53,20 3 Abreation in micrals: Augustian micrals: Augustian micrals: <td< td=""><td></td><td></td><td>,</td><td>-,</td><td>,</td><td>-,</td></td<>			,	-,	,	-,	
Dither oxides and hydroxides, vanadium content 257,200 510 42,300 251		do.	6.140.000 r	3,400	3.330.000	2,080	
Material Earth Mate						560	
Compounds, lithopone, chloride, compounds n.s.p.f., hydrosulfite, oxide, sulfate	•		,		,		
oxide, sulfate metric tons 90,900 76,400 91,600 6 Ore and concentrates, zinc content do. 48,000 31,600 122,000 4 Rolled do. 7,240 10,400 1,640 Slab, refined do. 813,000 773,000 874,000 71 Zirconium and haffnium: Time of the contentrates do. 5 1,300 5 1 Zirconium, ore and concentrates do. 66,600 21,600 35,300 1 Zirconium, unwrought, and waste and scrap do. 2,950 27,400 2,900 3 Zirconium, cicludes germanium oxides and zirconium dioxides do. 2,950 27,400 2,900 3 Zirconium, unwrought and waste and scrap do. 2,950 27,400 2,900 3 Abrasives, manufactured: Time in the contraction of the contract							
Ore and concentrates, zinc content do. 84,000 31,600 122,000 4 Rolled do. 7,240 10,400 1,640 1 Slab, refined do. 813,000 773,000 874,000 71 Zirconium and hafnium: Hafnium, unwrought, and waste and scrap do. 6,06,00 21,600 35,300 1 Zirconium ore and concentrates do. 6,06,00 21,600 35,300 1 Zirconium oxide, includes germanium oxides and zirconium dioxides do. 717 54,500 532 3 Zirconium, unwrought and waste and scrap do. 17,7 54,500 532 3 Jord Instituted 203,000 27,500 532 3 3 3 3 Abuminum oxide, crude, ground and refined metric tons 203,000 79,500 125,000 6 Boron carbide do. 18,700 11,300 125,000 7 Absestos, chrysotile and other unspecified type do. 13,000 71,900 165,000		metric tons	90 900	76 400	91 600	69,80	
Rolled do. 7,240 10,400 1,640 Slab, refined do. 813,000 773,000 874,000 71 Zirconium and hafnium: Haffnium, unwrought, and waste and scrap do. 5 1,300 35,300 1 Zirconium, ore and concentrates do. 2,950 27,400 2,900 35,300 1 Zirconium, inwrought and waste and scrap do. 2,950 27,400 2,900 35,300 1 Zirconium, unwrought and waste and scrap do. 717 54,500 532 33 Total Kustraial minerals: Abrasives, manufactured: Aluminum oxide, crude, ground and refined Metric tons 203,000 79,500 125,000 6 Boron carbide do. 18,700 11,300 12,400 Metallic abrasives do. 18,700 11,300 12,400 Sliicon carbide, crude, ground and refined do. 13,100 2,640 6,850 Barite: Chemicals; chloride, oxi						44,60	
Slab, refined	<u> </u>					4,810	
Patriconium and hafnium:						716,000	
Hafnium, unwrought, and waste and scrap	,		,	,,,,,,,,	.,,,,,,	, ,	
About training not and concentrates do. 21,600 21		do.	5	1.300	5	66	
						14,000	
Zirconium, unwrought and waste and scrap do. 717 54,500 532 33 Total XX 45,800,000 XX 43,900 dustrial minerals: Abrasives, manufactured: Abrasives, manufactured: Congound and refined Compounds, contained bromine 203,000 79,500 125,000 6 Boron carbide do. 18,700 11,300 12,400 7 Metallic abrasives do. 18,700 11,300 12,400 7 Silicon carbide, crude, ground and refined do. 13,100 2,640 6,850 8 Asbestos, chrysotile and other unspecified type do. 13,100 2,640 6,850 8 6 Barite: Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 ° 18,900 ° 30,800 1 6 Crude do. 2,470,000 107,000 1,510,000 6 6 6 5,170 1 1 6 1 1 6 1 1 6 1 1 6 </td <td>,</td> <td></td> <td></td> <td></td> <td></td> <td>31,70</td>	,					31,70	
Total XX 45,800,000 XX 43,900 Address Advantage Ad						38,70	
Abrasives, manufactured: Abrasives, manufactured: Abrasives, manufactured: Abrasives, manufactured: Aluminum oxide, crude, ground and refined Abo 282 6,870 NA Metallic abrasives Abo 18,700 11,300 12,400 Metallic abrasives Abo 133,000 71,900 165,000 73,000 71,900 165,000 74,000 71,900 165,000 74,000 71,900	, ,					43,900,00	
Aluminum oxide, crude, ground and refined metric tons 203,000 79,500 125,000 6 Boron carbide do. 282 6,870 NA Metallic abrasives do. 18,700 11,300 12,400 Silicon carbide, crude, ground and refined do. 133,000 71,900 165,000 7 Asbestos, chrysotile and other unspecified type do. 13,100 2,640 6,850 6,850 Barite: Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 r 18,900 r 30,800 1 Crude do. 2,470,000 107,000 1,510,000 6 Ground do. 35,100 16,900 31,200 1 Boric sulfates do. 35,100 16,900 31,200 1 Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 1 Ulexite 109 21,800 125 2 Bromine: <td>ndustrial minerals:</td> <td></td> <td></td> <td>-,,</td> <td></td> <td>- , ,</td>	ndustrial minerals:			-,,		- , ,	
Aluminum oxide, crude, ground and refined metric tons 203,000 79,500 125,000 6 Boron carbide do. 282 6,870 NA Metallic abrasives do. 18,700 11,300 12,400 Silicon carbide, crude, ground and refined do. 133,000 71,900 165,000 7 Asbestos, chrysotile and other unspecified type do. 13,100 2,640 6,850 6,850 Barite: Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 r 18,900 r 30,800 1 Crude do. 2,470,000 107,000 1,510,000 6 Ground do. 35,100 16,900 31,200 1 Boric sulfates do. 35,100 16,900 31,200 1 Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 1 Ulexite 109 21,800 125 2 Bromine: <td>Abrasives, manufactured:</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Abrasives, manufactured:						
Boron carbide do. 282 6,870 NA Metallic abrasives do. 18,700 11,300 12,400 Silicon carbide, crude, ground and refined do. 133,000 71,900 165,000 7 Asbestos, chrysotile and other unspecified type do. 13,100 2,640 6,850 8 Barite: Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 ° 18,900 ° 30,800 1 Crude do. 2,470,000 107,000 1,510,000 6 Ground do. 6,460 6,46 5,170 1 Other sulfates Boron minerals and compounds: Boric acid Energy and the sulfates of the sulfate of the sulfa	<u> </u>	metric tons	203,000	79,500	125,000	67,70	
Metallic abrasives do. 18,700 11,300 12,400 Silicon carbide, crude, ground and refined do. 133,000 71,900 165,000 7 Asbestos, chrysotile and other unspecified type do. 13,100 2,640 6,850 Barite: Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 ° 18,900 ° 30,800 1 Crude do. 2,470,000 107,000 1,510,000 6 Ground do. 6,460 646 5,170 1 Other sulfates do. 35,100 16,900 31,200 1 Borron minerals and compounds: Borax 1 642 (2) Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: 10,600 41,800 4,700 2 Compounds, contained bromine metric tons 10,600 <		do.	282	6,870	NA	N/	
Silicon carbide, crude, ground and refined do. 133,000 71,900 165,000 7 Asbestos, chrysotile and other unspecified type do. 13,100 2,640 6,850 8 Barite: Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 ° 18,900 ° 30,800 1 Crude do. 2,470,000 107,000 1,510,000 6 Ground do. 6,460 646 5,170 5 Other sulfates do. 35,100 16,900 31,200 1 Boron minerals and compounds: Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 1 Ulexite 109 21,800 125 2 Bromine: 56 10,600 41,800 4,700 2 Compounds, contained bromine metric tons 10,600 41,800 4,700 2	Metallic abrasives	do.	18,700		12,400	8,120	
Asbestos, chrysotile and other unspecified type do. Barite: Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 ° 18,900 ° 30,800 1 Crude do. 2,470,000 107,000 1,510,000 6 Ground do. 6,460 646 5,170 0 Other sulfates do. 35,100 16,900 31,200 1 Other sulfates do. 35,100 16,900 31,200 1 Other sulfates do.	Silicon carbide, crude, ground and refined	do.	133,000		165,000	79,70	
Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate do. 27,700 ° 18,900 ° 30,800 1 1510,000 1 Crude do. 2,470,000 107,000 1,510,000 6 6 Ground do. 6,460 646 5,170 646 5,170 1 6 6 6 6 5,170 1 6 9 31,200 1 1 6 9 31,200 1 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 6 2 1 7 9 9 3 2 2 1 9 9 9 3 2 2 3 9 9 9 3 2 2		do.	13,100		6,850	1,77	
Crude do. 2,470,000 107,000 1,510,000 6 Ground do. 6,460 646 5,170 1 Other sulfates do. 35,100 16,900 31,200 1 Boron minerals and compounds: 1 642 (2) Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 1 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Barite:						
Ground do. 6,460 646 5,170 Other sulfates do. 35,100 16,900 31,200 1 Boron minerals and compounds: Borax 1 642 (2) Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate	do.	27,700 r	18,900 r	30,800	17,00	
Other sulfates do. 35,100 16,900 31,200 1 Boron minerals and compounds: 1 642 (2) Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Crude	do.	2,470,000	107,000	1,510,000	63,10	
Boron minerals and compounds: Borax 1 642 (2) Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Ground	do.	6,460	646	5,170	59	
Boron minerals and compounds: Borax 1 642 (2) Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Other sulfates	do.	35,100	16,900	31,200	17,70	
Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Boron minerals and compounds:						
Boric acid 56 21,700 49 1 Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	1		1	642	(2)	9.	
Colemanite 35 9,790 32 Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Boric acid		56	21,700		18,40	
Ulexite 109 21,800 125 2 Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Colemanite					8,96	
Bromine: Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020						25,00	
Compounds, contained bromine metric tons 10,600 41,800 4,700 2 Elemental do. 5,610 4,240 2,020	Bromine:						
Elemental do. 5,610 4,240 2,020		metric tons	10,600	41,800	4,700	22,50	
	-					1,53	
25.700 707.000 24.200 7.3	Cement, hydraulic and clinker		25,900	987,000	24,200	939,00	

${\bf TABLE~8--Continued}\\ {\bf U.S.~IMPORTS~FOR~CONSUMPTION~OF~PRINCIPAL~MINERALS~AND~PRODUCTS,~EXCLUDING~MINERAL~FUELS^1}$

(Thousand metric tons and thousand dollars unless otherwise specified)

	2001 2001		01		
Mineral or product		Quantity	Value	Quantity	Value
Industrial mineralsContinued:					
Clays:		21 400	0.220	26,000	11 200
Artifically activated clay and activated earth	metric tons	21,400	9,330	26,800	11,300
Bentonite	do.	4,280	2,350	29,100	3,350
China clay or kaolin	do.	114,000	18,700	158,000	22,400
Common blue clay and other ball clay	do.	3,570	965	407	142
Decolorizing earths and fuller's earth	do.	31	14	205	48
Fire clay	do.	148	87	218	116
Other clay	do.	4,740	2,480	3,070	2,130
Diamond, industrial:	1 1 1	2.450	0.600	2.050	12.500
Diamond stones, natural and miners'	thousand carats	2,450	8,690	2,050	12,500
Powder, dust and grit, natural and synthetic	do.	282,000	85,300	185,000	61,900
Diatomite	metric tons	1,990	823	528	456
Feldspar and nepheline syenite:		6.140	7.40	5.450	77.5
Feldspar	do.	6,140	749	5,450	775
Nepheline syenite	do.	336,000	24,100	333,000	26,100
Fluorspar:		15 100	12 (00	15.000	12.000
Aluminum fluoride	do.	17,400	13,600	17,000	13,000
Cryolite	do.	6,750	5,340	7,950	5,810
Fluorspar	do.	522,000	69,000	494,000	62,000
Hydrofluoric acid, HF	do.	112,000	114,000	115,000	119,000
Garnet, industrial ^e		23	2,770	23	2,770
Gemstones		XX	11,400,000	XX	12,900,000
Graphite:					
Natural	metric tons	52,100	23,300	45,100	22,300
Electric furnace electrodes	do.	49,700	96,300	67,300	114,000
Gypsum:					
Boards		516	85,700	471	55,800
Crude		8,270	77,300	7,970	69,000
Plasters		9	4,150	11	4,740
Other		XX	63,800	XX	66,200
Iodine:					
Crude	metric tons	5,020 r	69,800	6,190	78,600
Potassium iodide	do.	522	7,510	633	8,020
Iron oxide pigments:					
Natural	do.	5,280	2,510	6,020	2,680
Synthetic	do.	84,700	74,400	126,000	93,600
Kyanite, and sillimanite	do.	3,260	569	4,620	952
Lime		115	15,100	157	19,700
Lithium chemicals:					
Carbonate	metric tons	10,300	15,300	9,830	15,600
Hydroxide	do.	362	1,240	432	1,290
Magnesium compounds:					
Compounds, chlorides, hydroxide, peroxide, sulfates	do.	128,000	28,400	68,300	17,600
Magnesite, crude and processed:					
Caustic-calcined magnesia	do.	130,000	23,400	148,000	24,400
Crude	do.	11,500	1,950	11,600	1,740
Dead-burned and fused magnesia	do.	363,000	67,200	394,000	70,100
Other magnesia	do.	17,200	13,400	17,600	13,600
Mica:					
Scrap and flake:					
Powder	do.	17,700	9,370	20,800	9,310
Waste	do.	14,600 ^r	2,910 ^r	14,100	2,860
Sheet:					
Unworked, excludes unworked sheet mica valued at less than \$1 per kilogram	do.	3,190 ^r	1,710	670	439
Worked	do.	1,100	11,900	913	9,750
Nitrogen, major compounds, gross weight		14,800 ^r	2,380,000	13,000	1,800,000
Peat moss	metric tons	776,000	158,000	763,000	149,000
Perlite, processed	do.	175,000	7,000	224,000	8,160

${\it TABLE~8--} Continued \\ {\it U.S.~IMPORTS~FOR~CONSUMPTION~OF~PRINCIPAL~MINERALS~AND~PRODUCTS, EXCLUDING~MINERAL~FUELS}^1$

(Thousand metric tons and thousand dollars unless otherwise specified)

	200	1	20	01
Mineral or product	Quantity	Value	Quantity	Value
Industrial mineralsContinued:	-		-	
Potash, chloride, nitrate, sodium nitrate mixtures, sulfate metric tons	7,480,000	537,000	7,630,000	615,000
Pumice:				
Crude or unmanufactured	378	11,000	359	22,800
Wholly or partially manufactured	1	2,370	1	3,200
Salt	12,900	179,000	8,160	129,000
Sand and gravel:				
Construction	3,820	40,800	4,310	53,900
Industrial	172	11,000	250	8,650
Silica:				
Quartz crystal, cultured, electronic- and optical-grade, excludes mounted				
piezoelectric crystals metric tons	14	8,390	10	2,100
Special silica stone products	NA	3,900	NA	4,500
Soda ash	33	4,070	9	2,000
Stone:				
Crushed, chips, calcium carbonate fines	13,500 ^r	119,000 ^r	14,300	125,000
Dimension	NA	1,070,000	NA	1,190,000
Strontium:				
Carbonate metric tons	43,500	24,100	42,000	23,200
Metal do.	270	1,210	156	615
Nitrate do.	831	2,550	771	2,050
Oxide, hydroxide, peroxide do.	64	82	73	74
Sulfate, celestite do.	12,800	806	2,580	155
Sulfur:				
Elemental	1,730	22,100	2,560	26,800
Sulfuric acid, 100% H ₂ SO ₄ metric tons	1,410,000	51,500	1,060,000	46,400
Talc	180	35,800	232	52,700
Vermiculite ^e	65	12,100	56	10,400
Wollastonite ^e	5,000	750	2,750	413
Zeolites ^e metric tons	100	20		
Total	XX	18,700,000	XX	19,700,000
Grand total	XX	64,500,000 ^r	XX	63,600,000

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

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

²Less than 1/2 unit.

${\bf TABLE~9}$ WORLD AND U.S. PRODUCTION OF SELECTED NONFUEL MINERAL COMMODITIES 1

(Thousand metric tons unless otherwise specified)

							Unit	ted States
Mineral or product		1998	1999	World total 2000	2001	2002	2002	Percentage of world total
Metals:		1998	1999	2000	2001	2002	2002	or world total
Aluminum ²		22,600	23,600	24,400 r	24,300 r	25,900	2,710	10.5
Antimony	metric tons	116,000	107,000	125,000 r	167,000 r	143,000	2,710	
Arsenic trioxide ³	do.	40,300	41,800 ^r	38,800 ^r	35,000 r	35,000		
Bauxite ^{3, 4, 5}	uo.	123,000	129,000 r	136,000 ^r	137,000 ^r	144,000	NA	NA
Beryl ³	metric tons	7,230 ^r	6,210	5,640 ^r	3,610 ^r	3,100	1,970	63.5
Bismuth, refinery	do.	4,330 ^r	3,610 r	4,220 ^r	5,050 r	5,100	1,970	
Cadmium	do.	20,200	20,200 r	20,100	18,000 r	15,800	700	4.4
Chromite ³	uo.	13,700 ^r	14,300 r	14,700 r	12,200 r	13,500		
Cobalt, Co content:		13,700	14,300	14,700	12,200	13,300		
Mine	metric tons	35,300 ^r	31,600 r	37,200 ^r	45,800 r	47,600		
		31,400 ^r	33,100 r	35,000 r				
Refinery	do.				38,600 r	40,300		
Columbium-tantalum concentrates ³	do.	64,200	59,700 ^r	60,700 ^r	73,200 ^r	74,800		
Copper:		12 100	12 000	12.200	12.700	12 (00	1 140	0.4
Mine		12,100	12,800	13,200	13,700	13,600	1,140	8.4
Refinery		14,100	14,600 r	15,000 r	15,700 r	15,500	1,510	9.7
Gold	metric tons	2,500	2,570 ^r	2,590 ^r	2,600 r	2,550	298	11.7
Iron ore ³	million metric tons	1,050	1,020	1,070 r	1,050 r	1,090	52	4.8
Iron and steel:								
Direct-reduced iron ²		37,200	38,200	42,500 ^r	39,300 ^r	38,800	470	1.2
Pig iron ²		535,000	539,000 ^r	573,000 r	577,000 ^r	604,000	40,200	6.7
Raw steel		770,000 ^r	784,000 ^r	845,000 ^r	847,000 ^r	898,000	91,600	10.2
Lead:								
Mine		3,060	3,070 r	3,180 ^r	3,150 r	2,910	451	15.5
Refinery		5,970 ^r	6,170 ^r	6,580 ^r	6,470	6,390	1,380	21.6
Magnesium	metric tons	396,000 ^r	341,000 r	428,000 r	428,000 r	429,000	W	NA
Manganese ore ³		19,900	17,800	19,600 ^r	20,800 r	21,900		
Mercury ⁵	metric tons	1,580	1,310	1,350 ^r	1,490 ^r	1,760	NA	NA
Molybdenum, Mo content	do.	136,000	129,000	133,000	132,000 ^r	123,000	32,600	26.5
Nickel, Ni content:								
Mine		1,180	1,160	1,270 r	1,340 r	1,340		
Refinery		1,040	1,050	1,110	1,170 ^r	1,210		
Platinum-group metals	kilograms	354,000	374,000	378,000	408,000 r	423,000	19,000	4.5
Selenium ^{2, 5}	metric tons	1,470	1,410	1,460 r	1,470 r	1,480	W	NA
Silver	do.	17,200	17,600 r	18,400 r	19,300 r	20,000	1,420	7.1
Tellurium ^{2, 5}	kilograms	123,000	116,000	111,000 r	109,000 r	104,000	W	NA
Tin:		-,	.,	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , ,		<u> </u>
Mine	metric tons	231,000 r	245,000 r	278,000 r	308,000 r	249,000		
Smelter ⁶	do.	247,000 r	266,000 r	288,000 r	295,000 ^r	278,000		
Titanium concentrates: ³	40.	2.7,000	_00,000	_00,000	_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_, 0,000		
Ilmenite and leucoxene		4,560	4,150	5,010	5,110 ^r	4,950	400 7	8.1
Rutile ⁵	metric tons	438,000	348,000	387,000	377,000	408,000	W	NA
Tungsten, W content	do.	37,000 r	37,700 r	44,000 ^r	45,300 ^r	59,100		
Zinc:	uo.	37,000	31,100	77,000	75,500	27,100		
Mine		7,570 ^r	7,970 ^r	8,790 ^r	8,930 r	8,360	780	9.3
Smelter		8,120 r	8,550 r	9,190 ^r	9,350 r	8,910	294	3.3
Industrial minerals:		0,120	0,330	2,170	9,330	0,710	<u> </u>	3.3
		1,980 ^r	1,850 ^r	2,110 ^r	2,160 ^r	2 120	2	Δ.1
Asbestos Barite		6,460 ^r	6,160 r	6,470 r	6,560 r	2,130	3 420 ⁸	7.0
						5,960	1,050 8	
Boron minerals	41	4,570	4,460	4,600 r	4,740 ^r	4,610	222,000 8	
Bromine	thousand kilograms	521,000	547,000	542,000 r	523,000 ^r	543,000	222,000 °	40.9

See footnotes at end of table.

${\it TABLE 9--Continued} \\ {\it WORLD AND U.S. PRODUCTION OF SELECTED NONFUEL MINERAL COMMODITIES}^1$

(Thousand metric tons unless otherwise specified)

							Unite	d States
			•	World total				Percentage
Mineral or produc	et	1998	1999	2000	2001	2002	2002	of world total
Industrial mineralsContinued:								
Celesite	metric tons	264,000	322,000	322,000 r	350,000 r	344,000		
Cement, hydraulic	million metric tons	1,540 ^r	1,600	1,650 r	1,730 r	1,800	91 ⁹	5.1
Clays:								
Bentonite		10,600	10,400	10,200	10,200 r	10,300	3,970	38.5
Fuller's earth		3,380	3,560	3,920	4,000 r	3,890	2,730	70.2
Kaolin		39,900 ^r	41,500 ^r	42,800 ^r	42,900 r	43,200	8,010	18.5
Diamond, natural	thousand carats	129,000	119,000 r	117,000 r	119,000 ^r	132,000		
Diatomite		2,000 r	2,020 r	1,990 ^r	1,930 ^r	1,920	624 8	32.5
Feldspar		9,330 ^r	9,980 ^r	9,580 ^r	9,870 ^r	9,750	140	1.4
Fluorspar		4,430 r	4,300 r	4,470 ^r	4,590 ^r	4,550		
Graphite, natural	metric tons	651,000	692,000	857,000	821,000 r	813,000		
Gypsum		104,000	109,000	106,000 r	102,000 r	101,000	15,700	15.5
Iodine, crude	thousand kilograms	18,600	18,400	19,500 ^r	20,700 r	20,700	1,420	6.9
Lime		117,000	116,000	118,000	117,000 ^r	116,000	17,900 8,9	15.4
Magnesite, crude ⁵		11,400	9,800 ^r	12,700 r	11,200 ^r	11,200	W	NA
Mica, including scrap and flake ¹⁰	metric tons	289,000	278,000	328,000	369,000 ^r	340,000	81,100	23.9
Nitrogen, N content of ammonia		104,000	107,000 ^r	108,000 r	105,000 r	109,000	10,830 11	9.9
Peat		19,800	31,000	26,200 r	27,000 r	24,200	642	2.7
Perlite		1,890	1,910	1,790	1,720 ^r	1,650	521 ⁸	31.6
Phosphate rock, gross weight		144,000	134,000 ^r	132,000	126,000	135,000	36,100	26.7
Potash, K ₂ O equivalent		26,000 r	27,200 ^r	27,000 r	26,400 r	26,500	1,200	4.5
Pumice		12,800 ^r	13,100 ^r	13,100 ^r	13,300 ^r	13,200	956 ⁸	7.2
Salt		200,000 r	210,000 r	212,000 r	217,000 r	210,000	40,300 9	19.2
Sand and gravel, industrial, silica		93,900 ^r	95,700 ^r	95,900 ^r	96,400 ^r	94,900	27,300 8	28.8
Soda ash, natural and manufactured		32,600 ^r	33,500 ^r	34,500 ^r	35,900 ^r	37,100	10,500 12	28.3
Sulfur, all forms		57,400 ^r	57,400 r	58,300 r	57,700	57,700	9,270	16.1
Talc and pyrophyllite ¹³		9,410 ^r	9,470 ^r	8,650 r	8,880 r	8,870	775	8.7
Vermiculite	metric tons	328,000	541,000	513,000 ^r	300,000 r	376,000	NA	NA

Revised. 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.

⁵Does not include U.S. production.

⁶Includes tin content of alloys made directly from ore.

⁷Includes rutile to avoid disclosing company proprietary data. Rounded to one significant digit.

⁸Quantity sold or used by producers.

⁹Includes Puerto Rico.

 $^{^{10}}$ Excludes, if any, U.S. production of low-quality sericite and sheet mica.

¹¹Synthetic anhydrous ammonia; excludes coke oven byproduct ammonia.

¹²U.S. production is natural only.

¹³Data for the United States exclude proprietary pyrophyllite production.