



2007 Minerals Yearbook

MINING AND QUARRYING TRENDS [ADVANCE RELEASE]

MINING AND QUARRYING TRENDS

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Domestic survey data were prepared by the author and the statistical assistants who have responsibility for the mineral commodities covered in this report.

The mining and quarrying trends shown in this report were calculated from nonfuel mineral data reported to the U.S. Geological Survey (USGS) by mining and quarrying companies operating in the United States. The data for 2007 were reported on the “Mine, Development, and Mineral Exploration Supplement” statistical survey conducted by the USGS and on the production surveys for some more widely produced nonfuel mineral commodities, such as sand and gravel. Additional data for 2007 were derived from annual USGS production and consumption surveys of nonfuel mineral producers; these surveys covered 58 nonfuel mineral commodities produced in the United States. Nonfuel minerals do not include coal, petroleum coke, and related products.

The data in the following tables are reported according to the primary or principal product of a mine or operation; a product of lesser value is considered to be a byproduct. The primary product is the product with the highest total value for the year. In some instances, the values of two products at the same operation are so similar that the products are coproducts.

Total domestic mining and waste removal for nonfuel mineral materials production amounted to 5.9 billion metric tons (Gt) in 2007, about the same as the revised figure of 2006. These materials included 4.5 Gt of crude ore mined or quarried and 1.4 Gt of mine ore and waste from development operations. Of the nonfuel mineral materials (ore and waste) mined, 58% was for the production of industrial minerals, and 42% was for the

production of metals. Overall, 97% of nonfuel mineral materials was mined and quarried using surface methods, and 3% was mined underground.

Total surface mining, quarrying, and waste removal for industrial minerals production amounted to 3.3 Gt, 3% lower than the revised 2006 total. Crude ore mined at these surface operations was 3.0 Gt, and 265 million metric tons (Mt) was waste, including ore and waste from development operations. Underground mining for industrial minerals was only 129 Mt, nearly all of which was crude ore.

Total surface mining and waste removal for metal ores amounted to 2.5 Gt, 3% higher than the revised 2006 total. Of the 2.5 Gt, 1.4 Gt was crude ore mined, and 1.1 Gt was ore and waste from development operations. Underground mining of metal ores and waste amounted to only 22 Mt, of which 86% was crude ore.

The major States in which mining for nonfuel mineral materials took place were, in descending order of total material handled, Nevada, Arizona, Florida, Minnesota, Utah, California, Texas, Michigan, Pennsylvania, and Georgia. These 10 States accounted for 63% of the tonnage removed in the production of nonfuel mineral materials mined in the United States. Nearly all nonfuel mine production in these States was from surface operations. Data that were concealed on table 2 were included when calculating the State rankings.

TABLE 1
MATERIAL HANDLED AT SURFACE AND UNDERGROUND MINES IN THE UNITED STATES, BY TYPE¹

(Million metric tons)

Type of ore and year	Surface ²			Underground ³			All mines		
	Crude ore	Waste ⁴	Total	Crude ore	Waste ⁴	Total	Crude ore	Waste ⁴	Total
Metals:									
2003	1,090	1,010	2,100	14	1	15	1,100	1,020	2,110
2004	1,190	1,060	2,250	14	2	16	1,200	1,060	2,260
2005	1,270 ^r	1,070 ^r	2,340 ^r	20 ^r	1	21 ^r	1,290 ^r	1,070 ^r	2,360 ^r
2006	1,310 ^r	1,080 ^r	2,390 ^r	16	3	19	1,330 ^r	1,080 ^r	2,410 ^r
2007	1,330	1,130	2,460	19	3	22	1,350	1,130	2,480
Industrial minerals:									
2003	2,850	414	3,260	107	(5)	107	2,960	414	3,370
2004	3,000	409	3,410	139	(5)	139	3,140	409	3,550
2005	3,090	370	3,460	137	1	138	3,230	370	3,600
2006	3,130 ^r	266 ^r	3,400 ^r	129	(5)	129	3,260 ^r	266	3,520 ^r
2007	3,040	265	3,300	129	(5)	129	3,170	265	3,430
All mineral commodities:									
2003	3,930	1,430	5,360	121	1	122	4,060	1,430	5,480
2004	4,190	1,470	5,650	153	2	155	4,340	1,470	5,810
2005	4,360 ^r	1,440 ^r	5,800 ^r	157 ^r	2	159 ^r	4,520 ^r	1,440 ^r	5,960 ^r
2006	4,440 ^r	1,340 ^r	5,780 ^r	145 ^r	3	148 ^r	4,590	1,350 ^r	5,930 ^r
2007	4,370	1,390	5,760	148	3	151	4,520	1,400	5,920

^rRevised.

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

²Includes materials from wells, ponds, and pumping operations.

³Includes solution mining.

⁴Includes ore and waste from development operations.

⁵Less than ½ unit.

TABLE 2
MATERIAL HANDLED AT SURFACE AND UNDERGROUND MINES IN THE UNITED STATES IN 2007, BY COMMODITY AND STATE¹

Commodity or State	Number of mines ²	Surface ³			Underground ⁵			All mines		
		Crude ore (thousand metric tons)	Waste ⁴ (thousand metric tons)	Total (thousand metric tons)	Crude ore (thousand metric tons)	Waste ⁴ (thousand metric tons)	Total (thousand metric tons)	Crude ore (thousand metric tons)	Waste ⁴ (thousand metric tons)	Total (thousand metric tons)
Commodity:										
Metal ore:										
Gold	48	294,000	708,000	1,000,000	4,800	1,740	6,540	299,000	710,000	1,010,000
Iron	10	166,000	152,000	318,000	--	--	--	166,000	152,000	318,000
Other ⁶	53	871,000	269,000	1,140,000	14,100	1,130	15,200	885,000	271,000	1,160,000
Total	111	1,330,000	1,130,000	2,460,000	18,900	2,860	21,700	1,350,000	1,130,000	2,480,000
Industrial minerals:										
Clays	627	36,800	32,000	68,700	W	W	W	36,800 ⁷	32,000 ⁷	68,700 ⁷
Feldspar ⁸	12	1,290	--	1,290	--	--	--	1,290	--	1,290
Gypsum	56	16,300	4,210	20,500	1,560	--	1,560	17,900	4,210	22,100
Phosphate rock	12	126,000	W	126,000 ⁹	--	--	--	126,000	W	126,000 ⁹
Pumice ¹⁰	24	1,270	W	1,270 ⁹	--	--	--	1,270	W	1,270 ⁹
Salt	64	7,240	--	7,240	38,200	--	38,200	45,400	--	45,400
Sand and gravel:										
Construction	8,662	1,230,000	--	1,230,000	--	--	--	1,230,000	--	1,230,000
Industrial	129	30,000	--	30,000	W	--	W	30,000 ⁷	--	30,000 ⁷
Soda ash	6	--	--	--	11,100	--	11,100	11,100	--	11,100
Stone:										
Crushed	3,710	1,530,000	110,000	1,640,000	68,100	459	68,600	1,600,000	111,000	1,710,000
Dimension	214	1,390	W	1,390 ⁹	W	--	W	1,390 ⁷	W	1,390 ^{7,9}
Talc ¹¹	9	769	W	769 ⁹	--	--	--	769	W	769 ⁹
Other ¹²	93	50,900	118,000	169,000	10,200	--	10,200	21,100	118,000	139,000
Total	13,618	3,040,000	265,000	3,300,000	129,000	459	129,000	3,170,000	265,000	3,430,000
Grand total	13,729	4,370,000	1,390,000	5,760,000	148,000	3,320	151,000	4,520,000	1,400,000	5,920,000
State:										
Alabama	200	71,900	6,130	78,000	W	--	W	71,900 ⁷	6,130	78,000 ⁷
Alaska	111	33,400	26,600	60,000	W	--	W	33,400 ⁷	26,600	60,000 ⁷
Arizona	388	561,000	86,400	647,000	--	--	--	561,000	86,400	647,000
Arkansas	173	42,600	6,210	48,800	W	--	W	42,600 ⁷	6,210	48,800 ⁷
California	514	200,000	W	200,000 ⁹	W	W	W	200,000 ⁷	W	200,000 ^{7,9}
Colorado	425	77,600	28,900	106,000	W	W	W	77,600 ⁷	28,900 ⁷	106,000 ⁷
Connecticut	108	17,300	791	18,000	--	--	--	17,300	791	18,000
Delaware	17	4,480	W	4,480 ⁹	--	--	--	4,480	W	4,480 ⁹
Florida	192	230,000	W	230,000 ⁹	--	--	--	230,000	W	230,000 ⁹
Georgia	280	97,500	13,600	111,000	1,660	12	1,680	99,200	13,600	113,000
Hawaii	35	9,700	682	10,400	--	--	--	9,700	682	10,400
Idaho	294	42,400	W	42,400 ⁹	W	W	W	42,400 ⁷	W	42,400 ^{7,9}
Illinois	279	99,500	4,970	104,000	8,620	60	8,680	108,000	5,030	113,000
Indiana	268	81,800	4,680	86,500	2,750	16	2,770	84,600	4,700	89,300
Iowa	364	46,900	2,780	49,700	5,290	32	5,320	52,200	2,810	55,000
Kansas	364	32,900	2,160	35,100	2,840	2	2,840	35,800	2,160	37,900
Kentucky	125	46,600	3,230	49,800	15,400	108	15,500	62,000	3,340	65,300
Louisiana	170	37,200	W	37,200 ⁹	13,400	--	13,400	50,600	W	50,600 ⁹
Maine	197	16,400	394	16,800	--	--	--	16,400	394	16,800

See footnotes at end of table.

TABLE 2—Continued
MATERIAL HANDLED AT SURFACE AND UNDERGROUND MINES IN THE UNITED STATES IN 2007, BY COMMODITY AND STATE¹

Commodity or State	Number of mines ²	Surface ³			Underground ⁵			All mines		
		Crude ore (thousand metric tons)	Waste ⁴ (thousand metric tons)	Total (thousand metric tons)	Crude ore (thousand metric tons)	Waste ⁴ (thousand metric tons)	Total (thousand metric tons)	Crude ore (thousand metric tons)	Waste ⁴ (thousand metric tons)	Total (thousand metric tons)
State—Continued:										
Maryland	98	40,500	2,140	42,600	W	W	W	40,500 ⁷	2,140 ⁷	42,600 ⁷
Massachusetts	141	24,800	779	25,600	--	--	--	24,800	779	25,600
Michigan	550	118,000	W	118,000 ⁹	1,690	--	1,690	120,000	W	120,000 ⁹
Minnesota	539	189,000	115,000	304,000	--	--	--	189,000	115,000	304,000
Mississippi	123	17,900	1,040	19,000	--	--	--	17,900	1,040	19,000
Missouri	321	81,600	6,180	87,800	W	W	W	81,600 ⁷	6,180 ⁷	87,800 ⁷
Montana	265	46,100	W	46,100 ⁹	W	W	W	46,100 ⁷	W	46,100 ^{7,9}
Nebraska	176	16,400	355	16,800	W	W	W	16,400 ⁷	355 ⁷	16,800 ⁷
Nevada	771	547,000	688,000	1,240,000	W	W	W	547,000 ⁷	688,000 ⁷	1,240,000 ⁷
New Hampshire	115	13,100	435	13,500	--	--	--	13,100	435	13,500
New Jersey	87	35,100	1,530	36,600	--	--	--	35,100	1,530	36,600
New Mexico	421	55,300	W	55,300 ⁹	12,600	--	12,600	67,900	W	67,900 ⁹
New York	488	76,900	4,550	81,500	6,560	W	6,560 ⁹	83,500	4,550 ⁷	88,000
North Carolina	254	92,900	9,980	103,000	--	--	--	92,900	9,980	103,000
North Dakota	231	15,200	W	15,200 ⁹	--	--	--	15,200	W	15,200 ⁹
Ohio	365	102,000	5,480	107,000	W	--	W	102,000 ⁷	5,480	107,000 ⁷
Oklahoma	372	63,900	4,440	68,400	W	W	W	63,900 ⁷	4,440 ⁷	68,400 ⁷
Oregon	331	49,000	2,400	51,400	--	--	--	49,000	2,400	51,400
Pennsylvania	363	111,000	7,660	119,000	4,270	30	4,300	116,000	7,690	123,000
Rhode Island	26	4,120	123	4,240	--	--	--	4,120	123	4,240
South Carolina	128	39,000	2,850	41,800	--	--	--	39,000	2,850	41,800
South Dakota	237	24,300	W	24,300 ⁹	--	--	--	24,300	W	24,300 ⁹
Tennessee	205	64,800	5,000	69,800	2,570	W	2,570 ⁹	67,400	5,000 ⁷	72,400
Texas	527	241,000	12,800	254,000	9,180	W	9,180 ⁹	250,000	12,800 ⁷	263,000
Utah	269	199,000	W	199,000 ⁹	1,020	W	1,020 ⁹	200,000	W	200,000 ⁹
Vermont	124	10,700	474	11,200	W	--	W	10,700 ⁷	474	11,200 ⁷
Virginia	206	72,200	5,080	77,300	W	W	W	72,200 ⁷	5,080 ⁷	77,300 ⁷
Washington	378	62,900	1,460	64,300	W	--	W	62,900 ⁷	1,460	64,300 ⁷
West Virginia	46	14,700	1,150	15,900	3,020	W	3,020 ⁹	17,800	1,150 ⁷	18,900
Wisconsin	744	66,500	2,160	68,600	--	--	--	66,500	2,160	68,600
Wyoming	324	35,200	4,690	39,800	9,960	--	9,960	45,100	4,690	49,800
Undistributed ¹³	--	88,200	321,000	409,000	47,300	3,060	50,400	136,000	324,000	460,000
Total	13,729	4,370,000	1,390,000	5,760,000	148,000	3,320	151,000	4,520,000	1,400,000	5,920,000

W Withheld to avoid disclosing company proprietary data; included with "Other" or "Undistributed." --Zero.

¹Data are rounded to no more than three significant digits except "number of mines"; may not add to totals shown.

²Includes quarries and other mineral operations.

³Includes materials from wells, ponds, and pumping operations.

⁴Includes ore and waste from development operations.

⁵Includes solution mining.

⁶Includes beryllium, copper, gold-silver, lead, lead-zinc, magnesium metal, molybdenum, platinum and palladium, silver, silver-copper, titanium, uranium, and zinc.

⁷Excludes materials from underground operations.

⁸Includes apilite.

⁹Excludes waste from mining operations and ore and waste from development operations.

TABLE 2—Continued
MATERIAL HANDLED AT SURFACE AND UNDERGROUND MINES IN THE UNITED STATES IN 2007, BY COMMODITY AND STATE¹

- ¹⁰Excludes volcanic cinder and scoria; included with "Crushed stone."
¹¹Excludes pyrophyllite.
¹²Includes abrasives, barite, boron minerals, bromine, diatomite, garnet, greensand marl, iodine, iron oxide pigments, kyanite, lithium minerals, magnesite, magnesium compounds, mica, olivine, perlite, potash, tripoli, vermiculite, wollastonite, zeolites, and industrial minerals indicated by symbol W.
¹³Includes material from States indicated by symbol W.

TABLE 3

VALUE OF PRINCIPAL MINERAL PRODUCTS AND BYPRODUCTS OF SURFACE AND UNDERGROUND MINES IN THE UNITED STATES IN 2007¹

(Dollars per metric ton)

Commodity	Surface			Underground			All mines		
	Principal mineral product	Byproduct	Total	Principal mineral product	Byproduct	Total	Principal mineral product	Byproduct	Total
Metal ore:									
Gold	24.07	W	24.07 ²	W	W	W	24.07 ³	W	24.07 ³
Iron	59.64 ⁴	--	59.64 ⁴	--	--	--	59.64 ⁴	--	59.64 ⁴
Average, metals ⁵	17.48	W	17.48 ²	106.12	26.79	132.91	19.20	2.25	21.45
Industrial minerals:									
Clays	47.79	--	47.79 ²	--	--	--	47.79 ³	--	47.79 ³
Feldspar ⁶	59.65	W	59.65 ²	--	--	--	59.65	W	59.65 ²
Gypsum	8.18	--	8.18	W	--	W	8.18 ³	--	8.18 ³
Phosphate rock	12.01	--	12.01	--	--	--	12.01	--	12.01
Pumice ⁷	22.85	--	22.85	--	--	--	22.85	--	22.85
Salt	86.03	--	86.03	19.80	--	19.80	30.05	--	30.05
Sand and gravel:									
Construction	7.01	--	7.01	--	--	--	7.01	--	7.01
Industrial	28.60	--	28.60	W	--	W	28.60 ³	--	28.60 ³
Soda ash	--	--	--	120.65	--	120.7	120.65	--	120.65
Stone:									
Crushed	8.66	--	8.66	8.66	--	8.66	8.66	--	8.66
Dimension	197.37	--	197.37	W	--	W	197.37 ³	--	197.37 ³
Talc ⁸	31.76	--	31.76	--	--	--	31.76	--	31.76
Average, industrial minerals ⁹	9.19	0.03	9.22	23.70	--	23.70	9.81	0.26	9.84
Average, industrial minerals, excluding sand and gravel and stone ⁹	22.59	0.29	22.88	38.75	--	38.75	26.62	0.22	26.84
Average, metals and industrial minerals ^{5,9}	11.28	0.46	11.74	34.41	3.48	37.90	12.13	0.58	12.71
Average, metals and industrial minerals, excluding sand and gravel and stone ^{5,9}	18.32	1.52	19.84	54.44	6.24	60.68	20.72	1.84	22.55

W Withheld to avoid disclosing company proprietary data; included in appropriate "Average." -- Zero.

¹Values calculated from unrounded data; may not add to totals shown because of independent rounding.²Value of principal mineral product only.³Value of products at surface operations only.⁴Average value at mines only.⁵Includes values of beryllium, copper, gold-silver, lead, lead-zinc, magnesium metal, molybdenum, platinum and palladium, silver, silver-copper, titanium, zinc, and metals indicated by symbol W.⁶Includes apatite.⁷Excludes volcanic cinder and scoria; included with "Crushed stone."⁸Excludes pyrophyllite.⁹Includes values of abrasives, barite, boron minerals, bromine, diatomite, garnet, greensand marl, iodine, iron oxide pigments, kyanite, lithium minerals, magnesite, magnesium compounds, mica, olivine, perlite, potash, tripoli, vermiculite, wollastonite, zeolites, and industrial minerals indicated by symbol W.

TABLE 4
 TWENTY-FIVE LEADING METAL AND INDUSTRIAL MINERAL MINES AND QUARRIES IN THE UNITED STATES IN 2007,
 IN ORDER OF OUTPUT OF CRUDE ORE¹

Name of mine, quarry or operation ²	State	Operator	Commodity	Mining method
Metal:				
Morenci	Arizona	Freeport-McMoRan Copper & Gold Inc.	Copper	Open pit.
Eastern Nevada operations ³	Nevada	Newmont Mining Corp.	Gold	Open pit and stoping.
Bingham Canyon	Utah	Kennecott Utah Copper Corp.	Copper-molybdenum	Open pit.
Betze-Post	Nevada	Barrick Gold Corp.	Gold	Open pit and underground.
Cortez	do.	do.	do.	Open pit.
Bagdad	Arizona	Freeport-McMoRan Copper & Gold Inc.	Copper-molybdenum	Do.
Chino	New Mexico	do.	do.	Do.
Sierrita	Arizona	do.	do.	Do.
Minntac	Minnesota	United States Steel Corp.	Iron ore	Do.
Ray	Arizona	Asarco LLC	Copper	Do.
Ruby Hill	Nevada	Barrick Gold Corp.	Gold	Do.
Hibbing Taconite	Minnesota	Cleveland-Cliffs Inc	Iron ore	Do.
Bald Mountain	Nevada	Barrick Gold Corp.	Gold	Do.
Round Mountain	do.	Round Mountain Gold Corp.	do.	Do.
Tyrone	New Mexico	Freeport-McMoRan Copper & Gold Inc.	Copper	Do.
Cresson	Colorado	Cripple Creek & Victor Gold Mining Co.	Gold	Do.
Kewatin Taconite	Minnesota	United States Steel Corp.	Iron ore	Do.
Fort Knox	Alaska	Kinross Gold Corp.	Gold	Do.
Marigold	Nevada	Goldcorp Inc.	do.	Do.
Tilden	Michigan	Cleveland-Cliffs Inc	Iron ore	Do.
Continental Pit	Montana	Montana Resources	Copper-molybdenum	Do.
United Taconite	Minnesota	Cleveland-Cliffs Inc	Iron ore	Do.
Northshore	do.	do.	do.	Do.
Empire	Michigan	do.	do.	Do.
Robinson	Nevada	Quadra Mining Ltd.	Copper-molybdenum	Do.
Industrial mineral:				
Florida mines (five)	Florida	The Mosaic Co.	Phosphate rock	Do.
Swift Creek	do.	PCS Phosphate Co., Inc.	do.	Do.
South Pasture	do.	CF Industries, Inc.	do.	Do.
White Rock	do.	Vecellio & Grogan, Inc.	Stone, crushed	Quarry.
Georgetown	Texas	Texas Crushed Stone Co., Inc.	do.	Do.
Aurora	North Carolina	PCS Phosphate Co., Inc.	Phosphate rock	Open pit.
F.E.C. Quarry	Florida	CEMEX S.A.B. de C.V.	Stone, crushed	Quarry.
McCook 378	Illinois	Vulcan Materials Co.	do.	Do.
Beckmann	Texas	Martin Marietta Aggregates	do.	Do.
Thornton Quarry	Illinois	Lehigh Hanson	do.	Do.
Mosaic Potash Carlsbad	New Mexico	The Mosaic Co.	Potash	Stoping.
Balcones Plant	Texas	CEMEX S.A.B. de C.V.	Stone, crushed	Quarry.
Ste. Genevieve Quarry	Missouri	Tower Rock Stone Co.	do.	Do.
Chico Quarry	Texas	Martin Marietta Aggregates	do.	Do.
Hunter Quarry	do.	Hunter Industries, Inc.	do.	Do.
Brooksville	Florida	CEMEX S.A.B. de C.V.	do.	Do.
Pennsuco Quarry	do.	Titan Atlantic LLC	do.	Do.
Portable	Utah	Oldcastle Materials, Inc.	do.	Do.
Dupont Pit	Washington	California Portland Cement Co.	Sand and gravel, construction	Open pit.
Servtex	Texas	Lehigh Hanson	Stone, crushed	Quarry.
South Hansen Pit	Utah	Geneva Rock Products, Inc.	Sand and gravel, construction	Open pit.
Millville	West Virginia	Holcim/Aggregate Industries	Stone, crushed	Quarry.
TXI Mill Creek Quarry	Oklahoma	Texas Industries, Inc.	do.	Do.
Romeo Quarry	Illinois	Lehigh Hanson	do.	Do.
Cement Plant	Texas	Texas Industries, Inc.	do.	Do.

Do., do. Ditto.

¹List includes private-sector operations only; excludes U.S. Bureau of Land Management and U.S. Forest Service operations.

²Where data are not reported for individual mining operations, ranking is on the basis of production as reported for a group of operations.

³Includes Carlin Mines complex, Carlin East Mine, Deep Post Mine, Gold Quarry Mine, Leeville Mine, Lone Tree complex, Midas Mine, Pete Mine, Phoenix Mine, Twin Creeks Mine, and Turquoise Ridge Mine; ore was mined from nine open pits and five underground mines.

TABLE 5
 TWENTY-FIVE LEADING METAL AND INDUSTRIAL MINERAL MINES AND QUARRIES IN THE UNITED STATES IN 2007,
 IN ORDER OF OUTPUT OF TOTAL MATERIAL HANDLED¹

Name of mine, quarry or operation ²	State	Operator	Commodity	Mining method
Metal:				
Betze-Post	Nevada	Barrick Gold Corp.	Gold	Open pit and underground.
Eastern Nevada operations ³	do.	Newmont Mining Corp.	do.	Open pit and stoping.
Morenci	Arizona	Freeport-McMoRan Copper & Gold Inc.	Copper	Open pit.
Bingham Canyon	Utah	Kennecott Utah Copper Corp.	Copper-molybdenum	Do.
Cortez	Nevada	Barrick Gold Corp.	Gold	Do.
Minntac	Minnesota	United States Steel Corp.	Iron ore	Do.
Round Mountain	Nevada	Round Mountain Gold Corp.	Gold	Do.
Ray	Arizona	Asarco LLC	Copper	Do.
Robinson	Nevada	Quadra Mining Ltd.	do.	Do.
Bagdad	Arizona	Freeport-McMoRan Copper & Gold Inc.	Copper-molybdenum	Do.
Chino	New Mexico	do.	do.	Do.
Sierrita	Arizona	do.	do.	Do.
Ruby Hill	Nevada	Barrick Gold Corp.	Gold	Do.
Mission Complex	Arizona	Asarco LLC	Copper	Do.
Cresson	Colorado	Cripple Creek & Victor Gold Mining Co.	Gold	Do.
Hibbing Taconite	Minnesota	Cleveland-Cliffs Inc	Iron ore	Do.
Tilden	Michigan	do.	do.	Do.
Bald Mountain	Nevada	Barrick Gold Corp.	Gold	Do.
Fort Knox	Alaska	Kinross Gold Corp.	do.	Do.
Marigold	Nevada	Goldcorp Inc.	do.	Do.
United Taconite	Minnesota	Cleveland-Cliffs Inc	Iron ore	Do.
Keewatin Taconite	do.	United States Steel Corp.	do.	Do.
Thompson	Idaho	Thompson Creek Metals Co.	Molybdenum	Do.
Northshore	Minnesota	Cleveland-Cliffs Inc	Iron ore	Do.
Empire	Michigan	do.	do.	Do.
Industrial mineral:				
Florida mines (five)	Florida	The Mosaic Co.	Phosphate rock	Do.
Boron Mine	California	U.S. Borax Inc.	Boron	Do.
Swift Creek	Florida	PCS Phosphate Co., Inc.	Phosphate rock	Do.
South Pasture	do.	CF Industries, Inc.	do.	Do.
Aurora	North Carolina	PCS Phosphate Co., Inc.	do.	Do.
White Rock	Florida	Vecellio & Grogan, Inc.	Stone, crushed	Quarry.
Georgetown	Texas	Texas Crushed Stone Co., Inc.	do.	Do.
F.E.C. Quarry	Florida	CEMEX S.A.B. de C.V.	do.	Do.
McCook 378	Illinois	Vulcan Materials Co.	do.	Do.
Beckmann	Texas	Martin Marietta Aggregates	do.	Do.
Thornton Quarry	Illinois	Lehigh Hanson	do.	Do.
Balcones Plant	Texas	CEMEX S.A.B. de C.V.	do.	Do.
Ste. Genevieve Quarry	Missouri	Tower Rock Stone Co.	do.	Do.
Mosaic Potash Carlsbad	New Mexico	The Mosaic Co.	Potash	Stoping.
Chico Quarry	Texas	Martin Marietta Aggregates	Stone, crushed	Quarry.
Hunter Quarry	do.	Hunter Industries, Inc.	do.	Do.
Brooksville	Florida	CEMEX S.A.B. de C.V.	do.	Do.
Pennsuco Quarry	do.	Titan Atlantic LLC	do.	Do.
Portable	Utah	Oldcastle Materials, Inc.	do.	Do.
Servtex	Texas	Lehigh Hanson	do.	Do.
Dupont Pit	Washington	California Portland Cement Co.	Sand and gravel, construction	Open pit.
Millville	West Virginia	Holcim/Aggregate Industries	Stone, crushed	Quarry.
TXI Mill Creek Quarry	Oklahoma	Texas Industries, Inc.	do.	Do.
Romeo Quarry	Illinois	Lehigh Hanson	do.	Do.
South Hansen Pit	Utah	Geneva Rock Products, Inc.	Sand and gravel, construction	Open pit.

Do., do. Ditto.

¹List includes private-sector operations only; excludes U.S. Bureau of Land Management and U.S. Forest Service operations.

²Where data are not reported for individual mining operations, ranking is on the basis of production as reported for a group of operations.

³Includes Carlin Mines complex, Carlin East Mine, Deep Post Mine, Gold Quarry Mine, Leeville Mine, Lone Tree complex, Midas Mine, Pete Mine, Phoenix Mine, Twin Creeks Mine, and Turquoise Ridge Mine; ore was mined from nine open pits and five underground mines.

TABLE 6
 MARKETABLE PRODUCT AND ORE TREATED OR SOLD AT SURFACE AND UNDERGROUND MINES
 IN THE UNITED STATES IN 2007, BY SELECTED COMMODITY AND STATE¹

(Thousand metric tons)

Commodity or State	Marketable product			Ore treated or sold		
	Surface	Underground	Total	Surface	Underground	Total
Commodity:						
Metal ore:						
Gold	W	W	W	164,000	5,300	169,000
Iron ore, usable	50,900	--	50,900	171,000	--	171,000
Industrial minerals:						
Clays	36,800	W	36,800	36,800	W	36,800
Feldspar ²	734	--	734	1,290	--	1,290
Gypsum	16,300	1,560	17,900	16,300	1,560	17,900
Phosphate rock	29,700	--	29,700	126,000	--	126,000
Pumice ³	1,270	--	1,270	1,270	--	1,270
Salt	(4)	44,500	44,500	(5)	45,400	45,400
Sand and gravel:						
Construction	1,230,000	--	1,230,000	1,230,000	--	1,230,000
Industrial	30,000	W	30,000	29,200	W	29,200
Soda ash	--	11,100	11,100	--	11,100	11,100
Stone:						
Crushed	1,530,000	68,100	1,600,000	1,530,000	68,100	1,600,000
Dimension	1,390	(6)	1,390	1,390	(7)	1,390
Talc ⁸	769	--	769	769	--	769
State:						
Alabama	73,200	(6)	73,200	73,200	(7)	73,200
Alaska	12,400	(6)	12,400	30,600	(7)	30,600
Arizona	101,000	--	101,000	568,000	--	568,000
Arkansas	43,800	(6)	43,800	43,800	(7)	43,800
California	195,000	(6)	195,000	202,000	(7)	202,000
Colorado	57,900	(6)	57,900	78,700	(7)	78,700
Connecticut	17,800	--	17,800	17,800	--	17,800
Delaware	4,480	--	4,480	4,480	--	4,480
Florida	142,000	--	142,000	231,000	--	231,000
Georgia	97,600	1,660	99,200	97,700	1,660	99,400
Hawaii	9,710	--	9,710	9,710	--	9,710
Idaho	34,800	(6)	34,800	44,200	(7)	44,200
Illinois	101,000	8,620	110,000	101,000	8,620	110,000
Indiana	85,100	(6)	85,100	85,100	(7)	85,100
Iowa	47,400	5,290	52,700	47,400	5,290	52,700
Kansas	32,900	2,810	35,800	32,900	2,810	35,800
Kentucky	48,300	15,400	63,700	48,300	15,400	63,700
Louisiana	36,500	13,100	49,600	37,300	13,700	51,000
Maine	16,600	--	16,600	16,600	--	16,600
Maryland	44,100	(6)	44,100	44,100	(7)	44,100
Massachusetts	24,900	--	24,900	24,900	--	24,900
Michigan	100,000	951	101,000	122,000	1,200	123,000
Minnesota	96,700	--	96,700	191,000	--	191,000
Mississippi	18,200	--	18,200	18,200	--	18,200
Missouri	82,100	13,600	95,600	82,100	18,400	100,000
Montana	18,300	(6)	18,300	43,100	(7)	43,100
Nebraska	21,200	(6)	21,200	25,300	(7)	25,300
Nevada	48,400	(6)	48,400	194,000	(7)	194,000
New Hampshire	13,200	--	13,200	13,200	--	13,200
New Jersey	36,800	--	36,800	36,800	--	36,800
New Mexico	26,700	(6)	26,700	59,800	(7)	59,800
New York	77,500	7,790	85,300	77,900	8,100	86,000
North Carolina	89,100	--	89,100	94,700	--	94,700

See footnotes at end of table.

TABLE 6—Continued
 MARKETABLE PRODUCT AND ORE TREATED OR SOLD AT SURFACE AND UNDERGROUND MINES
 IN THE UNITED STATES IN 2007, BY SELECTED COMMODITY AND STATE¹

(Thousand metric tons)

Commodity or State	Marketable product			Ore treated or sold		
	Surface	Underground	Total	Surface	Underground	Total
State—Continued:						
North Dakota	15,300	--	15,300	15,300	--	15,300
Ohio	107,000	(6)	107,000	107,000	(7)	107,000
Oklahoma	65,300	(6)	65,300	65,300	(7)	65,300
Oregon	49,500	--	49,500	49,500	--	49,500
Pennsylvania	112,000	4,270	116,000	112,000	4,270	116,000
Rhode Island	4,120	--	4,120	4,120	--	4,120
South Carolina	39,900	--	39,900	40,200	--	40,200
South Dakota	19,600	--	19,600	24,900	--	24,900
Tennessee	67,700	(6)	67,700	67,700	(7)	67,700
Texas	244,000	9,000	253,000	244,000	9,180	253,000
Utah	62,700	(6)	62,700	114,000	(7)	114,000
Vermont	10,800	(6)	10,800	10,800	(7)	10,800
Virginia	74,400	--	74,400	75,000	--	75,000
Washington	63,600	(6)	63,600	63,600	(7)	63,600
West Virginia	17,800	(6)	17,800	17,800	(7)	17,800
Wisconsin	66,800	(6)	66,800	66,800	(7)	66,800
Wyoming	35,400	10,100	45,500	35,400	9,960	45,400

W Withheld to avoid disclosing company proprietary data. -- Zero.

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

²Includes aplite.

³Excludes volcanic cinder and scoria; included with "Crushed stone."

⁴Withheld to avoid disclosing company proprietary data; included in "Marketable product, underground."

⁵Withheld to avoid disclosing company proprietary data; included in "Ore treated or sold, underground."

⁶Withheld to avoid disclosing company proprietary data; included in "Marketable product, surface."

⁷Withheld to avoid disclosing company proprietary data; included in "Ore treated or sold, surface."

⁸Excludes pyrophyllite.

TABLE 7
MINING METHODS USED AT SURFACE OPERATIONS IN THE UNITED STATES
IN 2007, BY COMMODITY

(Percentage of total material handled)

Commodity	Preceded by drilling and blasting	Not preceded by drilling and blasting ¹
Metal ore:		
Beryllium	100	--
Copper	100	--
Gold	100	--
Gold-silver	100	--
Lead	100	--
Lead-zinc	100	--
Iron	95	5
Magnesium metal	--	100
Molybdenum	100	--
Silver	100	--
Titanium	--	100
Uranium	--	100
Zinc	100	--
Industrial minerals:		
Abrasives	100	--
Barite	--	100
Boron minerals	100	--
Bromine	2	98
Clays	--	100
Diatomite	4	96
Feldspar ²	43	57
Garnet	28	72
Greensand marl	--	100
Gypsum	100	--
Iodine	--	100
Iron oxide pigments	--	100
Kyanite	100	--
Lithium minerals	--	100
Magnesite	100	--
Magnesium compounds	--	100
Mica, scrap	--	100
Olivine	51	49
Perlite	30	70
Phosphate rock	3	97
Potash	--	100
Pumice ³	44	56
Salt	--	100
Sand and gravel:		
Construction	--	100
Industrial	--	100
Stone:		
Crushed	99	1
Dimension	--	100

See footnotes at end of table.

TABLE 7—Continued
 MINING METHODS USED AT SURFACE OPERATIONS IN THE UNITED STATES
 IN 2007, BY COMMODITY

(Percentage of total material handled)

Commodity	Preceded by drilling and blasting	Not preceded by drilling and blasting ¹
Talc ⁴	98	2
Tripoli	56	44
Vermiculite	28	72
Wollastonite	100	--
Zeolites	96	4

-- Zero.

¹Includes drilling and cutting without blasting, dredging, mechanical excavation and nonfloat washing, and other surface mining methods.

²Includes aplite.

³Excludes volcanic cinder and scoria; included with "Crushed stone."

⁴Excludes pyrophyllite.

TABLE 8
 EXPLORATION ACTIVITY IN THE UNITED STATES IN 2007, BY METHOD, COMMODITY, AND STATE¹

(Meters)

Commodity or State	Churn and diamond drilling	Rotary and reverse circulation drilling	Percussion drilling, other drilling, and trenching	Grand total
Commodity:				
Gold	268,000	679,000	W	947,000
Silver	21,300	--	W	21,300
Other ²	57,000	127,000	308,000	492,000
Total	346,000	806,000	308,000	1,460,000
Percentage of grand total	24	55	21	100
State:				
Alaska	2,670	9,200	W	11,900
Missouri	11,100	10,100	--	21,200
Nebraska	--	63,300	--	63,300
Nevada	260,000	670,000	W	930,000
New York	16,200	--	--	16,200
Undistributed ³	56,500	53,300	308,000	417,000
Total	346,000	806,000	308,000	1,460,000

W Withheld to avoid disclosing company proprietary data; included with "Other" or "Undistributed." -- Zero.

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

²Includes boron minerals, brucite, copper, iron ore, lead, lead-zinc, molybdenum, uranium, talc, zinc, and commodity indicated by symbol W.

³Includes Arizona, California, Colorado, Idaho, Minnesota, Montana, New Mexico, Tennessee, Wyoming, and States indicated by symbol W.