

# THE MINERAL INDUSTRY OF CALIFORNIA

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the California Department of Conservation, Division of Mines and Geology, for collecting information on all nonfuel minerals.

In 1998, the preliminary estimated value<sup>1</sup> of nonfuel mineral production for California was \$2.97 billion, according to the U.S. Geological Survey (USGS). This was about a 2% decrease from that of 1997,<sup>2</sup> and followed a 7% increase in 1997 from 1996. The State rose in rank to second from third in the Nation in total nonfuel mineral production value, of which California accounted for more than 7% of the U.S. total.

Industrial minerals accounted for more than 93% of California's nonfuel mineral value; the remaining value mostly resulted from the mining of gold and silver. Construction sand and gravel, portland cement, boron minerals, and crushed stone, in descending order of value, were the leading industrial minerals in 1998, accounting for nearly 79% of the State's total industrial nonfuel mineral value. Whereas the majority of the State's nonfuel mineral commodities increased in value, only the values of construction sand and gravel, crushed stone, and portland cement (mineral listings in descending magnitude of change) significantly increased. These increases moderated significant decreases in boron, gold, rare-earth metal concentrates, salt, and soda ash (table 1). Smaller increases took place in magnesium compounds, natural sodium sulfate, industrial sand and gravel, crude gypsum, and fuller's earth, while potash and pumice showed similar-size decreases. All other changes in value were incremental. Bentonite, feldspar, fire clays, iron ore, kaolin, perlite, and talc (alphabetical order) decreased while all others showed small increases. In 1997, increases in the values of portland cement, construction sand and gravel, boron, and crushed stone accounted for most of the year's increase, which was somewhat mitigated by decreases in gold, bentonite, soda ash, and potash (table 1).

Based on USGS estimates of the quantities produced in the United States during 1998, California continued as the Nation's only<sup>2</sup> State to produce boron, rare-earth metal concentrates, and asbestos (this and the following listing groups are in descending

order of value). The State remained first in the production of construction sand and gravel, portland cement, diatomite, and first of two States that produced natural sodium sulfate. California continued second in gold, second of two States that produced soda ash, second in magnesium compounds and feldspar, and second of three States that produce titanium (ilmenite). The State remained third in industrial sand and gravel and perlite, fourth in gemstones, fifth in crude gypsum and kaolin, sixth in fuller's earth and talc, eighth in silver, and ninth in masonry cement. California dropped to fourth from third in pumice and pumicite and fire clays and to ninth from seventh in salt. Additionally, significant quantities of crushed stone, common clays, and dimension stone were produced in the State.

The following narrative information was provided by the California Department of Conservation, Division of Mines and Geology.<sup>3</sup>

## Industrial Minerals

Permits for new and expanded sand and gravel operations were granted by several city, county, and Federal agencies. Coast Rock Co. and Kaiser Sand and Gravel Co. were granted a use permit in December 1997 to mine sand and gravel along 27 kilometers of the Santa Maria and Sisquock rivers in Santa Barbara and San Luis Obispo Counties. West Coast Aggregates Inc.'s permit to mine rock in southern Santa Clara County was approved in September 1998 by the County Board of Supervisors. Mining operations are expected to begin in early summer 1999. Other permits were granted for aggregate mining in Trinity, Fresno, Mendocino, and Yolo Counties.

Several acquisition and mergers took place during the year. Vulcan Materials Co., the largest producer of aggregate in the United States, announced their acquisition of CalMat Co. in November. The deal was worth about \$890 million. The acquisition gives Vulcan control of 2 billion metric tons of aggregate resources in Arizona, California, and New Mexico. Prior to the takeover, Vulcan did not operate in the western United States. Nelson and Sloan, the third largest aggregate producer in San Diego County, was purchased by Cornerstone Construction and Materials for \$37.3 million. Nelson and Sloan produces 2 million metric tons per year from three operations in the San Diego area. The acquisition will add about 142 million metric tons to Cornerstone's reserves. Pioneer Southwestern acquired Asphalt Inc. (San Diego County) in November 1998. The deal included approximately 36 million metric tons of reserves. Chemical Lime Co., based in Fort Worth, TX, acquired National Refractories Inc.'s Natividad dolomite quarry and processing plant (Monterey County) in late December 1997.

<sup>1</sup>The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending on 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.

All 1998 USGS mineral production data published in this chapter are preliminary estimates as of February 1999 and are expected to change. For some commodities (for example, construction sand and gravel, crushed stone, and portland cement), estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. A telephone listing for the specialists may be retrieved over the Internet at <http://minerals.usgs.gov/minerals/contacts/comdir.html>; by using MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset (request Document #1000 for a telephone listing of all mineral commodity specialists); or by calling USGS information at (703) 648-4000 for the specialist's name and number. All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at <http://minerals.usgs.gov/minerals> or by way of MINES FaxBack.

<sup>2</sup>Values, percentage calculations, and rankings for 1997 may vary from the *Minerals Yearbook, Area Reports: Domestic 1997, Volume II*, owing to the revision of preliminary 1997 to final 1997 data. Data for 1998 are preliminary and expected to change, while related rankings may also be subject to change.

<sup>3</sup>Susan Kohler-Antablin, Associate Geologist, authored the text of information submitted by the Division of Mines and Geology.

Chemical Lime Co. will continue to produce dolomite for industrial and chemical applications.

Two of California's largest aggregate associations, the Central Valley Rock, Sand and Gravel Association and the Aggregate Producers Association of Northern California merged to form the Construction Materials Association of California. The new organization should provide a stronger voice for the California aggregate industry.

Grefco Minerals, Inc. closed its diatomite mine and plant near Lompoc (Santa Barbara County) in August. The company had been processing diatomaceous earth at the Lompoc site since the 1950's. Increasing regulatory pressures and environmental scrutiny were cited as the reason for closing. The Celite Corp. has acquired Grefco Minerals' reserves.

Molycorp Inc.'s world class Mountain Pass rare-earths mine (San Bernardino County) ceased refinery operations in March 1998 after operating continuously since 1951. Molycorp continued to produce bastnasite concentrates. The Mountain Pass Mine was the only producer of rare earths in the United States. Molycorp Inc., a subsidiary of Unocal Corp., agreed to pay a \$410,000 fine for spilling low-level radioactive waste into the high desert from a broken pipeline. Molycorp is currently developing safer methods to dispose of the waste in hopes of reopening and expanding its mine in the near future.

## **Metals**

Despite continued low gold prices in 1998, gold mining continued to dominate the State's metallic mineral production. Newmont Gold Co.'s Mesquite Mine (Imperial County) continued to lead the State in production for the year. Homestake's McLaughlin Mine (Napa, Lake, and Yolo Counties) was the second largest gold producer in the State followed closely by Viceroy Gold Corp.'s Castle Mountain Mine (San Bernardino County). The McLaughlin Mine ceased mining in 1996 but will continue to produce gold from stockpiled ores until about 2005.

The Sutter Gold Mining Co. was granted a use permit in September to mine underground at the Lincoln Mine project (Amador County). The mine is expected to open in 2000.

Viceroy Gold Corp.'s Castle Mountain Mine expansion project (San Bernardino County) got its final approval from the U.S. Bureau of Land Management in July 1998. The expansion will extend the mine life to 2001.

Golden Queen Mining Co.'s Soledad Mountain Mine and heap leaching project (Kern County) received a final permit from the Regional Water Quality Control Board in March. Reserves are estimated at 44 million metric tons, averaging 1.1 grams of gold per metric ton. The company is waiting to initiate construction upon stabilization of gold prices at \$350 per troy ounce.

Glamis Imperial Corp.'s Imperial Gold Mining Project (Imperial County) continued its permitting process throughout the year. The project has identified approximately 86 million metric tons of ore with an average grade of 0.55 grams of gold per metric ton.

Newmont Gold Co. has identified a northern extension of their ore body after conducting an extensive exploration program during the year. The exploration took place in two one-half sections north of the Mesquite Mine's Big Chief Pit (Imperial County). Newmont is currently in the process of obtaining a permit to mine these additional resources.

Royal Gold Inc. continues exploration at its Inyo Gold Project (Mono County). Probable reserves are estimated at about 22,000 kilograms of gold.

Chemgold Inc. finished mining its ore body at the Picacho Mine (Imperial County) in January. The mine has been in operation for the last 18 years. Heap leaching will continue for the next 2 to 3 years.

CalEnergy Minerals LLC awarded a contract to Kvaerner (an international engineering and construction group) in September 1998 for a \$148 million zinc recovery plant located at the Salton Sea (Imperial County). Scheduled for completion in mid-2000, the plant is expected to produce 27,000 metric tons per year of zinc from brine generated at CalEnergy Minerals' geothermal power plants.

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN CALIFORNIA 1/ 2/

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1996		1997		1998 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Asbestos metric tons	9,550	W	6,890	W	W	W
Boron minerals	1,150	519,000	604 3/	580,000	619 3/	440,000
Cement:						
Masonry	198	14,500 e/	169	13,500 e/	172	14,200
Portland	9,910	616,000 e/	10,300	705,000 e/	10,600	747,000
Clays:						
Bentonite	148	13,900	29	3,420	W	W
Common	1,340	12,600	937	10,300	956	10,500
Fire	60	W	W	W	W	W
Fuller's earth	224	W	W	W	W	W
Kaolin	W	W	75	W	W	W
Gemstones	NA	507	NA	1,330	NA	1,470
Gold 4/ kilograms	24,200 r/	304,000 r/	24,200 r/	258,000 r/	18,700	178,000
Lime	208	19,200 r/	200	20,300	208	20,400
Rare-earth metal metric tons	20,400	W	20,000 e/	W	10,000	W
Sand and gravel:						
Construction	103,000	583,000	115,000	668,000	125,000	752,000
Industrial	1,760	40,500	1,920	44,900	1,930	46,200
Silver 4/ metric tons	22	3,610	23	3,550	22	3,610
Stone:						
Crushed	46,700	295,000	49,600	325,000	57,200	395,000
Dimension metric tons	28,600	7,020	26,200	4,300	28,300	4,600
Combined values of diatomite, feldspar, gypsum (crude), iron ore (usable), magnesium compounds, mercury, perlite (crude), potash (1996-97), pumice and pumicite, salt, soda ash, sodium sulfate (natural), talc and pyrophyllite, titanium concentrates (ilmenite), and values indicated by symbol W	XX	409,000 r/	XX	401,000	XX	358,000
Total	XX	2,840,000 r/	XX	3,040,000 r/	XX	2,970,000

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined values" data. XX Not applicable.

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

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

3/ Weight reported as B<sub>2</sub>O<sub>3</sub> and is not comparable to prior years.

4/ Recoverable content of ores, etc.

TABLE 2  
CALIFORNIA: CRUSHED STONE SOLD OR USED, BY KIND 1/

Kind	1996				1997			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	22 r/	22,100 r/	\$123,000 r/	\$5.56 r/	22	22,900	\$131,000	\$5.73
Dolomite	8	384	2,670	6.95	8	282	2,790	9.89
Marble	2	W	W	W	2	W	W	W
Shell	1	W	W	W	1	W	W	W
Granite	20 r/	8,350 r/	56,000 r/	6.71 r/	19	9,230	69,500	7.52
Traprock	23 r/	8,290 r/	60,500 r/	7.30 r/	24	11,200	82,300	7.35
Sandstone and quartzite	7 r/	854 r/	5,590 r/	6.55 r/	7	1,030	6,050	5.91
Slate	2	W	W	W	2	W	W	W
Volcanic cinder and scoria	4	420	3,450	8.21	3	484	3,450	7.13
Miscellaneous stone	19 r/	6,100 r/	41,200 r/	6.75 r/	12	4,120	26,700	6.49
Total	XX	46,700	295,000	6.31	XX	49,600	325,000	6.56

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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

TABLE 3  
CALIFORNIA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1997, BY USE 1/2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<u>Coarse aggregate (+1 1/2 inch):</u>			
Riprap and jetty stone	1,760	\$15,400	\$8.73
Filter stone	140	925	6.61
Other coarse aggregate 3/	51	174	3.41
<u>Coarse aggregate, graded:</u>			
Concrete aggregate, coarse	1,410	12,900	9.16
Bituminous aggregate, coarse	1,140	9,100	7.99
Bituminous surface-treatment aggregate	608	9,860	16.22
Railroad ballast	1,310	9,440	7.20
Other graded coarse aggregate	97	784	8.08
<u>Fine aggregate (-3/8 inch):</u>			
Stone sand, bituminous mix or seal	873	7,930	9.08
Screening, undesignated	731	3,570	4.88
Other fine aggregate 4/	434	4,110	9.47
<u>Coarse and fine aggregates:</u>			
Graded road base or subbase	4,750	30,100	6.35
Unpaved road surfacing	91	631	6.93
Terrazzo and exposed aggregate	92	1,300	14.12
Crusher run or fill or waste	2,190	7,650	3.49
Other coarse and fine aggregates	3,520	13,800	3.94
Other construction materials	1,280	11,100	8.67
<u>Agricultural:</u>			
Agricultural limestone	57	769	13.49
Other agricultural uses 5/	116	1,580	13.62
<u>Chemical and metallurgical:</u>			
Cement manufacture	11,800	44,200	3.73
Lime manufacture	W	W	5.83
Sulfur oxide removal	W	W	16.15
<u>Special:</u>			
Asphalt fillers or extenders	(6/)	(6/)	16.67
Whiting or whiting substitute	(6/)	(6/)	33.07
Other fillers or extenders	(6/)	(6/)	19.65
Roofing granules	(6/)	(6/)	13.05
Other specified uses not listed 7/	998	28,500	28.59
<u>Unspecified: 8/</u>			
Actual	4,680	42,100	8.99
Estimated	11,400	69,000	6.05
Total	49,600	325,000	6.56

W Withheld to avoid disclosing company proprietary data; included in "Total."

1/ Includes dolomite, granite, limestone, marble, miscellaneous stone, sandstone and quartzite, shell, slate, traprock, and volcanic cinder and scoria.

2/ Data are rounded to three significant digits, except unit value; may not add to totals shown.

3/ Includes macadam.

4/ Includes stone sand, concrete.

5/ Includes poultry grit and mineral food.

6/ Withheld to avoid disclosing company proprietary data; included with "Other specified uses not listed."

7/ Includes flour (slate).

8/ Includes reported and estimated production without a breakdown by end use.

TABLE 4  
CALIFORNIA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1997, BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4		District 5	
	Quantitv	Value	Quantitv	Value	Quantitv	Value	Quantitv	Value	Quantitv	Value
<b>Construction aggregates:</b>										
Coarse aggregate (+1 1/2 inch) 2/	W	W	W	W	166	1,370	568	5,240	W	W
Coarse aggregate, graded 3/	--	--	W	W	W	W	W	W	W	W
Fine aggregate (-3/8 inch) 4/	--	--	W	W	W	W	W	W	W	W
Coarse and fine aggregate 5/	W	W	W	W	1,410	8,470	W	W	442	2,300
Other construction materials 6/	193	1,230	535	3,440	356	4,410	2,280	16,600	522	3,600
Agricultural 7/	--	--	(8/)	(8/)	--	--	--	--	--	--
Chemical and metallurgical 9/	(8/)	(8/)	--	--	--	--	--	--	--	--
Special 10/	--	--	--	--	--	--	--	--	(8/)	(8/)
Other miscellaneous uses 11/	(8/)	(8/)	(8/)	(8/)	--	--	--	--	--	--
<b>Unspecified: 12/</b>										
Actual	5	64	--	--	(8/)	(8/)	--	--	--	--
Estimated	--	--	--	--	(8/)	(8/)	--	--	(8/)	(8/)
<b>Total</b>	<b>250</b>	<b>1,520</b>	<b>551</b>	<b>3,660</b>	<b>3,540</b>	<b>30,000</b>	<b>2,850</b>	<b>21,900</b>	<b>2,710</b>	<b>17,800</b>
Use	District 6		District 7		District 8		District 9		District 10	
	Quantitv	Value	Quantitv	Value	Quantitv	Value	Quantitv	Value	Quantitv	Value
<b>Construction aggregates:</b>										
Coarse aggregate (+1 1/2 inch) 2/	W	W	156	2,180	W	W	W	W	W	W
Coarse aggregate, graded 3/	W	W	W	W	W	W	W	W	W	W
Fine aggregate (-3/8 inch) 4/	W	W	W	W	W	W	W	W	W	W
Coarse and fine aggregate 5/	2,350	12,200	3,490	15,900	W	W	14	245	W	W
Other construction materials 6/	1,270	12,600	3,420	30,400	574	3,580	518	4,030	473	3,540
Agricultural 7/	(8/)	(8/)	(8/)	(8/)	--	--	--	--	--	--
Chemical and metallurgical 9/	--	--	(8/)	(8/)	1,950	6,400	6,900	23,000	(8/)	(8/)
Special 10/	--	--	--	--	--	--	(8/)	(8/)	(8/)	(8/)
Other miscellaneous uses 11/	--	--	--	--	--	--	(8/)	(8/)	(8/)	(8/)
<b>Unspecified: 12/</b>										
Actual	(8/)	(8/)	--	--	(8/)	(8/)	W	W	--	--
Estimated	--	--	--	--	(8/)	(8/)	2,820	18,300	--	--
<b>Total</b>	<b>3,650</b>	<b>24,900</b>	<b>10,100</b>	<b>63,400</b>	<b>6,590</b>	<b>34,100</b>	<b>12,200</b>	<b>84,000</b>	<b>627</b>	<b>5,920</b>
Use	District 11		District 12		Unspecified districts					
	Quantitv	Value	Quantitv	Value	Quantitv	Value				
<b>Construction aggregates:</b>										
Coarse aggregate (+1 1/2 inch) 2/	W	W	--	--	--	--				
Coarse aggregate, graded 3/	W	W	--	--	--	--				
Fine aggregate (-3/8 inch) 4/	W	W	--	--	--	--				
Coarse and fine aggregate 5/	W	W	(8/)	(8/)	--	--				
Other construction materials 6/	1,250	4,790	--	--	--	--				
Agricultural 7/	--	--	--	--	--	--				
Chemical and metallurgical 9/	--	--	--	--	--	--				
Special 10/	--	--	--	--	--	--				
Other miscellaneous uses 11/	--	--	--	--	--	--				
<b>Unspecified: 12/</b>										
Actual	(8/)	(8/)	--	--	54	(13/)				
Estimated	(8/)	(8/)	(8/)	(8/)	--	--				
<b>Total</b>	<b>5,530</b>	<b>32,000</b>	<b>928</b>	<b>5,630</b>	<b>54</b>	<b>(13/)</b>				

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."

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

2/ Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.

3/ Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregate.

4/ Includes stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregate.

5/ Includes graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, crusher run (select material or fill), and other coarse and fine aggregates.

6/ Includes drain fields and roofing granules.

7/ Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

8/ Withheld to avoid disclosing company proprietary data; included in "Total."

9/ Includes cement manufacture, glass manufacture, and sulfur oxide removal.

10/ Includes other fillers or extenders and whiting or whiting substitute.

11/ Includes other specified uses not listed.

12/ Includes reported and estimated production without a breakdown by end use.

13/ Less than 1/2 unit.

TABLE 5  
 CALIFORNIA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1997,  
 BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	32,000	\$194,000	\$6.07
Plaster and gunite sands	2,510	16,200	6.47
Concrete products (blocks, bricks, pipe, decorative, etc.)	1,010	7,390	7.33
Asphaltic concrete aggregates and other bituminous mixtures	13,100	95,800	7.29
Road base and coverings 2/	13,800	75,100	5.45
Fill	5,010	16,900	3.37
Snow and ice control	69	650	9.42
Railroad ballast	76	352	4.63
Other miscellaneous uses 3/	1,480	7,480	5.07
Unspecified: 4/			
Actual	32,400	188,000	5.79
Estimated	13,000	65,800	5.05
Total or average	115,000	668,000	5.83

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

2/ Includes road and other stabilization (cement and lime).

3/ Includes filtration and railroad ballast.

4/ Includes reported and estimated production without a breakdown by end use.

TABLE 6  
CALIFORNIA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1997,  
BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	397	3,470	166	855	606	5,680
Asphaltic concrete aggregates and other bituminous mixtures	500	5,890	W	W	W	W
Road base materials 3/	458	2,980	638	2,530	W	W
Other miscellaneous uses 4/	W	W	W	W	W	W
Unspecified: 5/						
Actual	W	W	4	22	685	6,220
Estimated	129	730	730	3,930	318	2,130
Total	1,540	13,100	1,760	9,640	2,370	19,200
	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	6,400	42,400	997	7,050	2,300	16,200
Asphaltic concrete aggregates and other bituminous mixtures	3,930	34,000	529	3,560	W	W
Road base materials 3/	5,590	29,900	902	5,890	1,530	8,140
Other miscellaneous uses 4/	553	1,830	W	W	W	W
Unspecified: 5/						
Actual	19	185	--	--	3,120	23,400
Estimated	1,350	9,860	W	W	307	2,190
Total	17,800	118,000	3,410	22,500	8,670	61,300
	District 7		District 8		District 9	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	967	8,670	3,720	21,700	7,230	36,000
Asphaltic concrete aggregates and other bituminous mixtures	W	W	1,360	7,720	2,740	13,700
Road base materials 3/	452	2,860	1,930	9,170	2,660	11,300
Other miscellaneous uses 4/	--	--	W	W	181	1,230
Unspecified: 5/						
Actual	W	W	W	W	5,520	26,100
Estimated	--	--	1,510	6,310	2,880	8,480
Total	2,700	20,800	10,500	55,500	21,200	96,800
	District 10		District 11		District 12	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	603	6,780	9,840	56,700	2,210	16,000
Asphaltic concrete aggregates and other bituminous mixtures	W	W	2,060	13,000	W	W
Road base materials 3/	810	3,020	2,700	10,700	W	W
Other miscellaneous uses 4/	W	W	W	W	--	--
Unspecified: 5/						
Actual	122	603	W	W	7,530	41,100
Estimated	--	--	907	4,750	3,940	21,800
Total	1,900	11,600	28,100	157,000	14,300	81,000
	Unspecified districts					
	Quantity	Value				
Concrete aggregate and concrete products 2/	--	--				
Asphaltic concrete aggregates and other bituminous mixtures	64	369				
Road base materials 3/	172	998				
Other miscellaneous uses 4/	--	--				
Unspecified: 5/						
Actual	83	136				
Estimated	--	--				
Total	318	1,500				

W Withheld to avoid disclosing company proprietary data; included in "Total."

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

2/ Includes plaster and gunite sands.

3/ Includes fill, road and other stabilization (cement and lime), and snow and ice control.

4/ Includes railroad ballast.

5/ Includes reported and estimated production without a breakdown by end use.