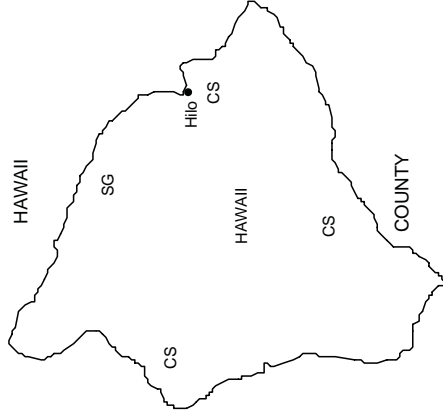
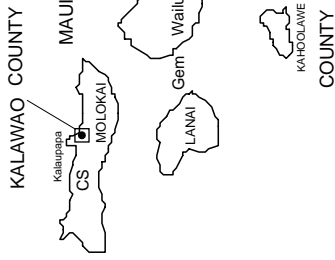
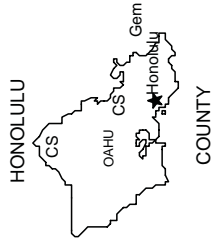
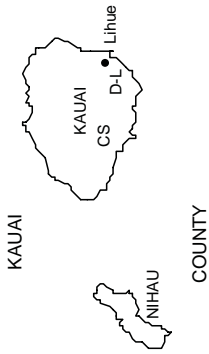




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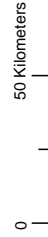


LEGEND

- ★ Capital
- City

**MINERAL SYMBOLS
(Major producing areas)**

- CS Crushed stone
- D-L Dimension limestone
- Gem Gemstones
- SG Construction sand and gravel



THE MINERAL INDUSTRY OF HAWAII

THIS CHAPTER HAS BEEN PREPARED UNDER A MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. GEOLOGICAL SURVEY AND THE HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES, COMMISSION ON WATER RESOURCE MANAGEMENT, FOR COLLECTING INFORMATION ON ALL NONFUEL MINERALS.

In 2005, Hawaii nonfuel raw mineral production was valued¹ at \$100 million, based upon annual U.S. Geological Survey (USGS) data. This was an increase in value of about 36% compared with that of 2004, which followed a decrease of 1.9% from 2003 to 2004. Mining in Hawaii consisted mostly of the quarrying of stone, used to produce crushed stone, and the extraction of sand and gravel from open pits, both commodities produced for use by the construction industry. Gemstones, in significant quantities, also were produced, mostly black coral and precious coral.

In 2005, significant increases took place in the production and especially the values of both of the aggregates. Crushed stone value rose by \$21 million, up more than 34% from that of 2004, with a 12.8% increase in production. The value of construction sand and gravel was up \$5.4 million, 44.6% more than in 2004, resulting from a 10.3% increase in production. Although having

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

All 2005 USGS mineral production data published in this chapter are those available as of December 2006. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

minimal effect on the State’s overall change in value, gemstones production, based on value, decreased by \$45,000 to \$217,000 in 2005; this followed a more than doubling of gemstone value in 2004 from 2003 (table 1).

Hawaii Cement Co. produced a small quantity of masonry cement in 2003 from what remained of the company’s stockpiled portland cement materials (table 1). In 2001, Hawaii Cement had decided to stop production at its plant on the island of Oahu, Honolulu County, and rely solely on imported cement. This operation, which had produced cement from imported clinker, was the only cement plant in the State. (Clinker is the intermediate, kiln-processed product of cement manufacture.) The company stopped importing clinker in March 2001 and permanently closed its grinding plant in September (van Oss, 2003, p. 16.3). In 2001, in coordination with the shutdown, the company completed construction of its twin 30,000-metric-ton cement silos for storage of imported cement (Wurlitzer, 2001).

References Cited

- van Oss, H.G., 2003, Cement, *in* Metals and minerals: U.S. Geological Survey Minerals Yearbook 2001, v. I, p. 16.1-16.31.
Wurlitzer, Dane, 2001, Hawaiian success: International Cement Review, March, p. 41-42.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN HAWAII^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement, masonry	W	(3)	--	--	--	--
Gemstones	NA	119	NA	262	NA	217
Sand and gravel, construction	808	9,560	1,260	12,100	1,390	17,500
Stone, crushed	5,620	65,400	5,470 ^r	61,300 ^r	6,170	82,300
Total	XX	75,100	XX	73,700 ^r	XX	100,000

¹Revised. NA Not available. W Withheld to avoid disclosing company proprietary data. XX Not applicable. -- Zero.

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

³Data are rounded to no more than three significant digits; may not add to totals shown.

⁴Value excluded to avoid disclosing company proprietary data.

TABLE 2
HAWAII: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	2004			2005		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	1	8	\$126	1	W	W
Traprock	17 ^r	4,760 ^r	54,700 ^r	18	5,420	\$72,000
Volcanic cinder and scoria	1	348	2,990	4	W	W
Miscellaneous stone	2 ^r	356	3,490	2	419	4,320
Total	XX	5,470 ^r	61,300 ^r	XX	6,170	82,300

¹Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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

TABLE 3
HAWAII: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2005, BY USE¹

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	W	W
Riprap and jetty stone	W	W
Filter stone	W	W
Other coarse aggregates	149	1,690
Total	231	3,600
Coarse aggregate, graded:		
Concrete aggregate, coarse	548	8,780
Bituminous aggregate, coarse	W	W
Bituminous surface-treatment aggregate	W	W
Other graded coarse aggregates	214	3,720
Total	795	13,000
Fine aggregate (-¾ inch):		
Stone sand, concrete	494	15,800
Stone sand, bituminous mix or seal	(2)	(2)
Other fine aggregates	175	3,220
Total	669	19,000
Coarse and fine aggregates:		
Graded road base or subbase	385	5,030
Crusher run or fill or waste	882	7,160
Other coarse and fine aggregates	227	3,740
Total	1,490	15,900
Other construction materials	3	53
Agricultural, other agricultural uses	4	55
Unspecified, estimated ³	3,000	37,000
Grand total	6,170	82,300

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

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

²Withheld to avoid disclosing company proprietary data; included with "Other fine aggregate."

³Estimated production without a breakdown by end use.

TABLE 4
HAWAII: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2005,
BY MAJOR USE CATEGORY¹

Use	Quantity	Value (thousands)	Unit value
	(thousand metric tons)		
Concrete aggregate (including concrete sand)	388	W	W
Concrete products (blocks, bricks, pipe, decorative, etc.) ²	22	W	W
Asphaltic concrete aggregates and road base materials	154	W	W
Fill	173	W	W
Other miscellaneous uses	30	W	W
Unspecified, estimated ³	627	\$7,600	\$12.13
Total or average	1,390	17,500	12.54

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

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

²Includes plaster and gunite sands.

³Estimated production without a breakdown by end use.