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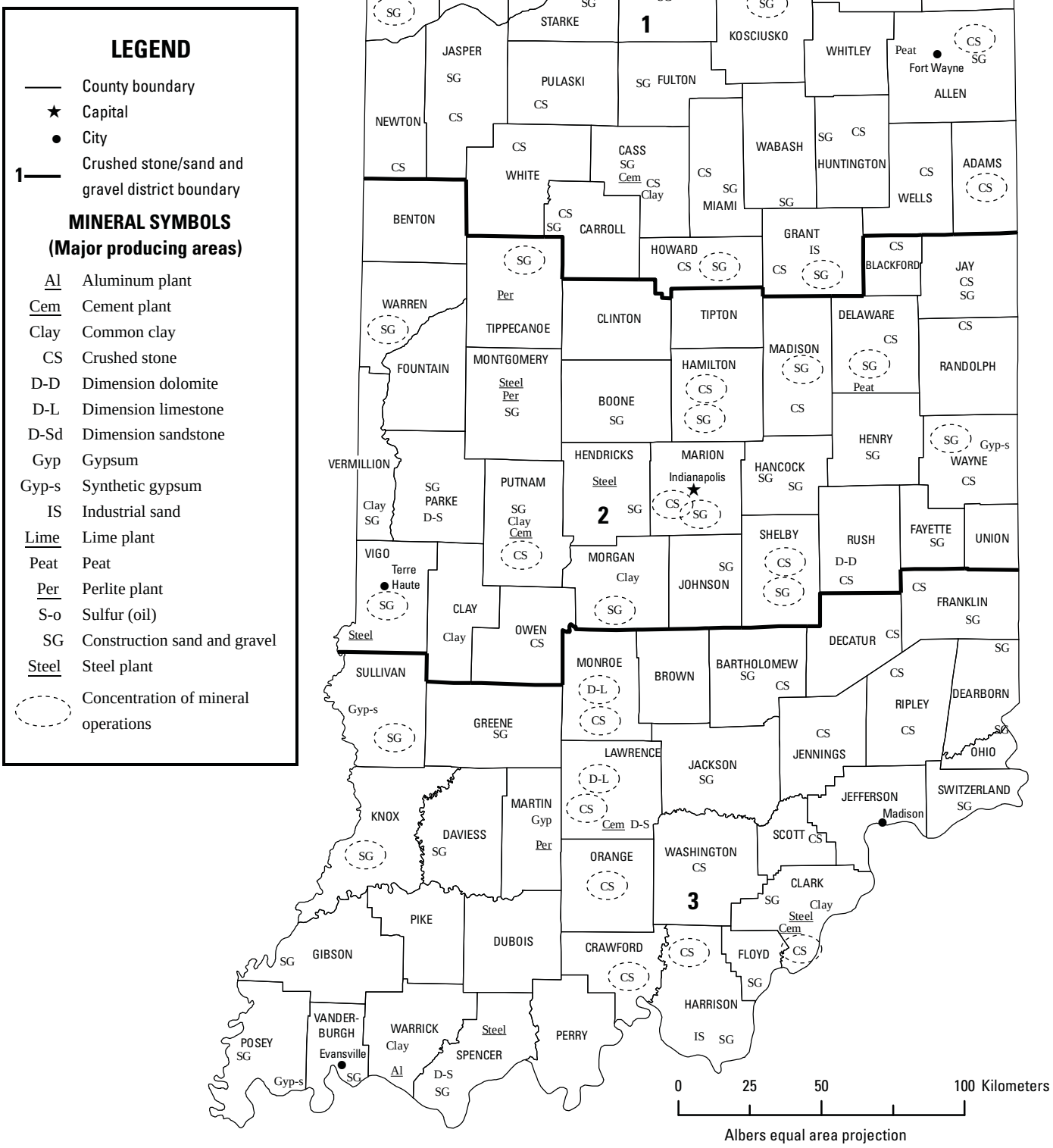
2006 Minerals Yearbook

INDIANA

U.S. Department of the Interior
U.S. Geological Survey

September 2009

INDIANA



Source: Indiana Geological Survey/ U.S. Geological Survey (2006).

The Mineral Industry of Indiana

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Indiana Geological Survey for collecting information on all nonfuel minerals.

In 2006, Indiana's nonfuel raw mineral production was valued[1] at $982 million, on the basis of annual U.S. Geological Survey (USGS) data. This was a 10% increase of $89 million from the State's total nonfuel mineral value for 2005, which had increased by $109 million, or more than 14%, from 2004 to 2005 (table 1). The State was 23d in rank (22d in 2005) among the 50 States in total nonfuel raw mineral production value, of which Indiana accounted for nearly 1.5% of the U.S. total.

In 2006, crushed stone, by value, remained the State's leading nonfuel mineral commodity, followed by cement (portland and masonry), construction sand and gravel, lime, and dimension stone. The combined values of these five mineral commodities accounted for more than 95% of the State's total nonfuel mineral production value. Although only small increases took place in the quantities of crushed stone and construction sand and gravel that were produced and portland cement production was down slightly, increases in these mineral commodity values and in the value of lime led the State's increase in total nonfuel mineral value. The value of crushed stone rose by $28 million, portland cement value was up by $24 million, and the value of construction sand and gravel increased by $18 million. A significant increase in the production of lime resulted in a nearly $15 million rise in its value. Also up in value were (in descending order of change) masonry cement, common clays, and industrial sand and gravel. The largest decrease in value took place in dimension stone; a small decrease in production resulted in a more than $7 million decrease in the commodity's value (table 1).

In 2006, Indiana rose in rank to second from third in the quantity of dimension stone produced as compared with other producing States; the State also increased to seventh from eighth in crude gypsum production, and to eighth from ninth in the production of lime. Indiana ranked 5th in masonry cement production, and it continued to be 5th in the quantity of ball clay produced and 10th in the production of portland cement. The State's aggregate mining companies produced substantial quantities of crushed stone and construction sand and gravel, remaining 12th and 15th in rank, respectively; additionally, substantial quantities of common clays were produced in the State.

The State's mines produced exclusively industrial minerals and coal; all raw steel and primary aluminum produced in the State were processed from materials received from other domestic and foreign sources. Indiana continued to lead the Nation in the production of raw steel, with an estimated output of about 23.8 million metric tons (Mt) of raw steel, up about 6.3% from 22.4 Mt that was produced in 2005, as reported by the American Iron and Steel Institute (American Iron and Steel Institute, 2007, p. 74). Based upon USGS annual data, the State continued as the second-leading primary aluminum-producing State.

The following narrative information was provided by the Indiana Geological Survey[2] (IGS).

Employment

According to the United States Department of Labor, Mine Safety and Health Administration (MSHA), an average of 3,533 individuals were employed in Indiana's industrial minerals sector during 2006, representing a 2.6% decrease from 2005 employment levels.

Commodity Review

Industrial Minerals

Cement.—Buzzi Unicem USA, Inc. received a Portland Cement Association Safety Innovation Award for an innovation installed at its Greencastle plant in Putnam County that protects employees against fall-related mishaps. The innovative system consists of portable safety panels that easily but securely attach to existing hand rails.

Clays.—Indiana's clay industry began to experience some revitalization during the year. In response to increasing demand, General Shale Products Corp. planned to expand brick production at its Mooresville plant in Morgan County through installation of a $30 million, completely automated, robotic production line. Production was anticipated to nearly double to 200 million bricks per year, 90 million more than are currently produced. Also, Boral Bricks, Inc. was preparing to open a new brick plant in the Terre Haute area in Vigo County, and Brampton Brick, Ltd., Brampton, Ontario, Canada, was expected to open a plant near Farmersburg in Sullivan County. In another action, BrickCraft, LLC began mining its own shale from a pit behind the company's brick plant in Clay County that had opened in 2004. As a result of the preceding developments, clay production was likely to increase significantly within the State. To further meet the increasing demand for the clay raw material used at these plants, some clay may also be recovered as a byproduct material from coal mining operations.

Sand and Gravel, construction.—MSHA identification numbers were provided to three sand and gravel companies enabling them to begin production by yearend. These new

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

All 2006 USGS mineral production data published in this chapter are those available as of March 2008. 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.

[2]Kathryn R. Shaffer, Minerals Statistician, authored the text of State mineral industry information provided by the Indiana Geological Survey.

mining operations included Littleton & Sons Sand & Supply's Mann Road pit, Morgan County; Eagle Materials, LLC's, Smith Valley pit, Johnson County; and Clifton Sand & Gravel, LLC's operation, Union County. U.S. Aggregates, Inc. planned to open a second sand and gravel pit in the Waverly area, Morgan County, but faced opposition from area landowners.

During the year, six operations underwent a change in ownership. The acquisitions included Cook Block & Brick, Inc., Madison County to Elda Corp; J.R. Sand & Stone, Steuben County to Shimp Sand & Gravel, LLC; Northwest Indiana Aggregates, Jasper County to Morocco Sand & Gravel, Inc.; Smith Mining's Bethlehem Sand & Gravel, Clark County to Johnson Construction Materials, LLC; Spray Sand and Gravel, Inc., Jackson County to Spray, Inc.; and Wilson Excavating's Lyon Pit, Steuben County to Fremont Sand & Gravel, LLC. The Bethlehem Sand & Gravel operation had been involved in Chapter 11 bankruptcy proceedings, and Cook Block & Brick, Inc. operated only briefly after opening in 2004. Elda Corp. planned to operate the facility as Cook Gravel.

Nine sand and gravel operations were listed by MSHA as having been closed during 2006. Among the closed operations were Aggregate Industries' Goshen pit, Elkhart County, U.S. Aggregates' Planfield Plant Southwest, Hendricks County, and Vulcan Materials Company's Hanna Sand and Gravel, La Porte County.

Elkhart County Gravel Corp.'s New Paris operation in Elkhart, Clark County received a Sentinels of Safety Award from The National Mining Association and MSHA. The award was presented in the small bank or pit category, as part of the Sterling Safety and Excellence Awards Program. Irving Gravel Company, Inc.'s, Kendallville Plant, Noble County also received an award from the Indiana Mineral Aggregates Association for the plant's 16-year safety record.

Stone, crushed.—In 2006, a new mine was opened, and several others either changed ownership, closed, or expanded. Ingram Enterprises, LLC's, Ingram Quarry in Monroe County received an MSHA identification number and began operations during the year. Five other active quarries changed ownership. Vulcan Materials Company acquired Mathes Quarry, LLC, in Harrison County; Watson Gravel, Inc. acquired Parker Stone, LLC, in Putnam County; and Hanson PLC acquired Material Service Corp., which included three quarries in Indiana and additional mines in Illinois. The Indiana quarries affected were Babcock Quarry in Jasper County, Monon Quarry in White County, and Ward Stone Quarry in Pulaski County. Five quarry operations also were closed during the year. Junction Limestone, Inc.'s Uland Quarry in Greene County closed at the beginning of the year. Rogers Group, Inc. ceased removing and processing overburden from the Indiana Limestone Company's Crown dimension limestone quarry in Monroe County. However, the dimension stone mine remained open. Martin Marietta Aggregates' Gosport Quarry in Owen County also was listed as abandoned. Hanson Aggregates Midwest, Inc. closed its Tom Miller underground mine in Scott County and its Atkins underground mine in Clark County. Hanson had acquired both quarries in 2005 from Liter's of Indiana, Inc. The Cooper's Lane Quarry, also in Clark County, and acquired in that transaction, remained active along with surface operations at the Atkins Quarry. Engineering Aggregates Corp. planned a 45.3-hectares (ha) expansion east of its present location in Cass County. As part of the expansion project, the processing plant and stockpiles were to be relocated.

Crushed stone producers were recipients of several awards during the year. A Bronze Award was presented to Hanson Aggregates Midwest, Inc.'s, Aggrock Quarry in Clark County by the National Stone, Sand and Gravel Association under its Environmental Excellence Awards program. Several other Hanson Aggregates quarries in the State received certificates of achievement as part of that program. A Sentinels of Safety Award was presented to Rogers Group, Inc.'s, Sieboldt Quarry in Lawrence County by the National Mining Association and MSHA as part of their Sterling Safety and Excellence Awards Program. The quarry also received an award for its 18-year safety record from the Indiana Mineral Aggregates Association.

Stone, dimension.—The Indiana Limestone Institute reported strong demand for its product throughout the year, primarily in collegiate construction projects and high-end residential development. The latter demand remained particularly strong in the eastern United States. Indiana dimension limestone is often used as exterior veneer, columns, balustrades, and for other purposes on these residential structures. Gaining increasing interest in the industry was the "thin wall" dimension stone market. In this end use, small pieces of stone, generally ranging from 2.5 to 4.5-centimeters thick are mortared into relatively short walls, usually one story or so, to give the look of full, thick walls without the expense and weight. Indiana quarries primarily sell the blocks and slabs to out-of-State companies that make the thin wall products. Increased production of the tools and equipment required to manufacture the thin wall products also has been observed (Jim Owens, Indiana Limestone Institute, oral commun. July 11, 2007). B.G. Hoadley Quarries, Inc., near Bloomington, Monroe County, increased production by 30%, and reduced manpower requirements by 30% through use of a newly installed automated hydraulic drill rig and hydraulic wedges. Canada accounts for about 90% of the company's sales. Indiana Limestone Company, Bedford, Indiana, completed a billion-dollar condominium project at 15 Central Park West, New York, NY. This 80,450-square-meter, neoclassically designed structure was clad in 26,940 square meters of the company's Empire Full Color Blend limestone. The Divinity School addition at Duke University in Durham, NC, received a 2006 Pinnacle Award of Merit in the Commercial Exterior category from the Marble Institute of America (MIA). The building was trimmed in Indiana buff limestone that was mined from Independent Limestone Company, LLC's quarry near Bloomington, Monroe County, and milled by Bybee Stone Company, Inc. in Ellettsville, Monroe County. Bybee Stone Company also completed work on the Schermerhorn Symphony Center, Nashville, TN, using similar stone provided by Independent Limestone Company. This project also has been nominated for an MIA Pinnacle Award.

Metals

Aluminum.—Alcoa Corp.'s Warrick County plant planned to purchase a $7.3 million rotary furnace in 2007 that would permit

greater reuse of the waste material generated in the smelting process. Equipment also was to be installed that would allow for production of the only lithographic-quality sheet aluminum in North America. Work also continued on the installation of wet limestone scrubbers at all four units of the plant's power station, in order to improve environmental performance and increase power efficiency. The scrubber project was expected to be completed in 2008. A new coal mine that supplies about 45% of the fuel for the Warrick smelter was opened in Mt. Carmel, IL, during the year. In recognition for the operational improvements made at the Warrick plant, which effectively saved 59,400 megawatts per year of electricity, the plant received the Governor's Award for Environmental Excellence.

Steel.—Mittal Steel N.V., Rotterdam, Netherlands, merged with Arcelor S.A.(headquartered in Luxembourg). The merged company, ArcelorMittal, consists of 61 mills in several countries with crude steel production totaling 116 million metric tons per year. Mittal Steel has holdings in Indiana at Burns Harbor in Porter County and at Indiana Harbor in Lake County along Lake Michigan in northern Indiana. The Indiana Harbor mill lost about 181,000 metric tons of steel production early in the year as a result of a molten-iron spill that required a month-long shutdown for cleanup and repairs. In other activities, Mittal began work on the expansion of its East Chicago, IN, research and development center in July.

U.S. Steel Corp. completed the rebuilding of a blast furnace in January at its Gary Works in Lake County, subsequently restarting the furnace. Production capacity of the rebuilt furnace was increased by 30% to about 8,350-metric tons per day of molten iron. Some blast furnaces at the Gary Works were idled during the fourth quarter owing to weaker demand and the need for maintenance. U.S. Steel's Midwest Plant in Portage received a tax reduction from the city of Portage for a plant upgrade that will permit production of high-strength steel suitable for the auto industry. The Portage plant operates as a finishing facility that is part of the Gary Works.

Improvements made at Steel Dynamics, Inc.'s, Flat Roll Division in Butler, DeKalb County were expected to increase annual production by 15% to 2.7 Mt in 2007. However, production at the mill declined during the fourth quarter of 2006 as a result of a weakened market for flat-rolled steel. The company also planned to double the size of its Jeffersonville galvanized steel plant, spending about $39 million on the project. The finances were to be directed toward improvements that would allow for production of prepainted, acrylic-coated, and aluminum-zinc-alloy-coated steel. Construction of Steel Dynamic's SBQ Bar Products Division plant in Pittsboro, Hendricks County, was completed as scheduled, and was renamed the Engineered Bar Products Division. Steel Dynamics also planned to construct a new steel-beam mill at its Columbia City site in Whitley County, with construction expected to be completed by mid-2007. A portion of the steel beam production from the existing mill was to be moved to the new mill, allowing for the existing mill to produce rails for railroad use. A rail-welding facility also was to be constructed at the Columbia City site. In further actions, Steel Dynamics formed a joint venture, Dynamic Composites, LLC, with Primix Corp. to produce composite railroad ties in a separate facility at the Columbia City site. The composite tie consists of a steel core filled with concrete that is encapsulated with a synthetic material composed of recycled rubber and plastic.

Environmental Issues

The Indiana Department of Environmental Management (IDEM) created an improved online search engine for determining the status of air quality permit applications. It is available for use at http://www.in.gov/ai/appfiles/idem-caats/. The agency also launched the Environmental Stewardship Program (ESP), a State version of the U.S. Environmental Protection Agency's National Environmental Performance Track program. In return for exceeding current State minimum standards for environmental management, a company may be entitled to reduced record keeping and reporting requirements, less monitoring, fewer inspections, more flexible permits, and more expeditious processing of permit applications. Additional information concerning the ESP can be found at http://www.in.gov/idem/prevention/esp/index.html. A company may participate in the Federal and State programs.

U.S. Steel Corp. arrived at an agreement with the IDEM pertaining to Clean Air Act violations at its Gary Works coke battery facility. As part of the agreement, U.S. Steel was required to pay a fine and perform several projects to improve the environment at the facility.

Government Programs

Indiana's aggregates and cement industries are likely to benefit appreciably from additional road construction in the near future as a result of legislation passed that amends current State law to permit some public-private agreements to manage bridges, roads, and toll roads. Subsequent to the passage of this legislation, the Indiana Toll Road was to be leased for $3.8 billion, paid in advance, covering a period of 75 years. Interest derived from the prepaid funds was then to be directed toward completion of highway construction projects within the State, including $700 million for planned extension of an Interstate. The legislation also provided an additional $75 million to local governments for each of the next 2 years to assist in alleviating the backlog of planned road construction projects. Funding for new road construction throughout the State was expected to reach $874 million in fiscal year 2015, an amount four times that of the fiscal year ending in June 2006.

Martin Marietta Aggregates's request to rezone about 39 ha (96 acres) in order to expand its mining operation was denied in April. Earlier passage of a mining ordinance by the city of Carmel, Hamilton County, and continued objections from its residential neighbors remained as obstacles to the company's expansion plans. However, in July, Martin Marietta won a preliminary injunction preventing the ordinance from taking effect, but the case was still in litigation at yearend. Martin Marietta produces sand and gravel on the surface and crushed limestone nearby in an underground mine, both within the Carmel city limits.

Detailed aerial photos of the entire State were taken during the year and can be viewed at http://www.indianamap.org.

These images also are available for viewing on Google Maps at http://www.maps.google.com and the IGS Web site at http://igs.indiana.edu. The IGS also released numerous publications of interest to the industrial minerals industry. These publications included a Directory of Industrial Mineral Producers in Indiana (Shaffer, 2006); A Study of the Remediation of Pad Marks on Indiana Limestone (Ennis, 2006, 31 p.); Karst (Hasenmueller and Powell, 2006, 1 p.); and Generalized Stratigraphic Column of Indiana Bedrock (Thompson and Sowder, 2006, 1 p.).

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Ennis, M.V., 2006, A study of the remediation of pad marks on Indiana limestone: Indiana Geological Survey Report of Progress 34, 31 p.

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Shaffer, K.R., 2006, Directory of industrial mineral producers in Indiana: Indiana Geological Survey Directory 11, 74 p. (Also available as a CD-ROM.)

Thompson, T.A., and Sowder, K.H., 2006, Generalized stratigraphic column of Indiana bedrock: Indiana Geological Survey Poster 6.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN INDIANA[1, 2]

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement, portland	3,080	218,000 [e]	3,060	243,000 [e]	3,030	267,000 [e]
Clays, common	729	8,910 [r]	809	13,500	779	16,400
Gemstones, natural	NA	4	NA	4	NA	4
Sand and gravel, construction	28,300	116,000	28,400	135,000	29,300	153,000
Stone:						
Crushed	56,800	265,000	58,900 [r]	321,000 [r]	58,900	349,000
Dimension	251	45,500	240	46,300	233	39,000
Combined values of cement (masonry), clays (ball), gypsum (crude), lime, peat, sand and gravel (industrial)	XX	130,000 [r]	XX	135,000	XX	157,000
Total	XX	784,000 [r]	XX	893,000 [r]	XX	982,000

[e]Estimated. [r]Revised. NA Not available. 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.

TABLE 2
INDIANA: CRUSHED STONE SOLD OR USED, BY KIND[1]

Kind	2005			2006		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone[2]	74 [r]	49,100 [r]	$261,000 [r]	74	51,600	$295,000
Dolomite	18	9,750	60,200	16	7,320	54,100
Total	XX	58,900 [r]	321,000 [r]	XX	58,900	349,000

[r]Revised. XX Not applicable.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes limestone-dolomite reported with no distinction between the two.

TABLE 3
INDIANA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2006, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	226	1,290
Riprap and jetty stone	483	3,470
Filter stone	99	754
Other coarse aggregate	1,610	6,030
Total	2,420	11,500
Coarse aggregate, graded:		
Concrete aggregate, coarse	2,110	16,000
Bituminous aggregate, coarse	2,030	15,100
Bituminous surface-treatment aggregate	1,630	13,900
Railroad ballast	475	3,330
Other graded coarse aggregate	4,530	22,100
Total	10,800	70,400
Fine aggregate (-⅜ inch):		
Stone sand, concrete	50	402
Stone sand, bituminous mix or seal	477	2,790
Screening, undesignated	W	W
Other fine aggregate	2,210	7,710
Total	2,730	10,900
Coarse and fine aggregates:		
Graded road base or subbase	5,310	33,200
Unpaved road surfacing	388	2,680
Crusher run or fill or waste	1,280	5,560
Other coarse and fine aggregates	5,540	33,400
Total	12,500	74,900
Other construction materials[2]	61	476
Agricultural:		
Limestone	977	4,770
Poultry grit and mineral food	(3)	(3)
Other agricultural uses	365	1,280
Total	1,340	6,060
Chemical and metallurgical:		
Cement manufacture	(4)	(4)
Flux stone	(4)	(4)
Glass manufacture	(4)	(4)
Sulfur oxide removal	(4)	(4)
Special:		
Whiting or whiting substitute	(4)	(4)
Other fillers or extenders	(4)	(4)
Other miscellaneous uses and specified uses not listed	142	758
Unspecified:[5]		
Reported	16,400	115,000
Estimated	8,200	44,000
Total	24,600	159,000
Grand total	58,900	349,000

W Withheld to avoid disclosing company proprietary data; included with "Other fine aggregate."
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes pipe bedding.
[3]Withheld to avoid disclosing company proprietary data; included with "Other agricultural uses."
[4]Withheld to avoid disclosing company proprietary data; included in "Grand total."
[5]Reported and estimated production without a breakdown by end use.

TABLE 4
INDIANA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2006, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	507	2,710	156	1,290	1,750	7,540
Coarse aggregate, graded[3]	4,160	31,500	1,840	14,400	4,780	24,500
Fine aggregate (-⅜ inch)[4]	479	2,520	169	992	2,090	7,400
Coarse and fine aggregates[5]	3,720	21,500	2,030	13,200	6,770	40,200
Other construction materials[6]	--	--	49	414	12	62
Agricultural[7]	773	3,540	131	766	438	1,750
Chemical and metallurgical[8]	W	W	W	W	W	W
Special[9]	W	W	W	W	W	W
Other miscellaneous uses	3	17	--	--	139	741
Unspecified:[10]						
Reported	4,090	28,500	9,760	70,200	2,580	16,100
Estimated	1,400	7,600	3,600	19,000	3,200	17,000
Total	15,700	100,000	18,000	123,000	25,200	126,000

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.
[3]Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregate.
[4]Includes stone sand (bituminous mix or seal), stone sand (concrete), screening (undesignated), and other fine aggregate.
[5]Includes crusher run or fill or waste, graded road base or subbase, unpaved road surfacing, and other coarse and fine aggregates.
[6]Includes pipe bedding.
[7]Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.
[8]Includes cement and glass manufacture, flux stone, and sulfur oxide removal.
[9]Includes whiting or whiting substitute and other fillers or extenders.
[10]Reported and estimated production without a breakdown by end use.

TABLE 5
INDIANA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2006, BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	7,730	$39,200	$5.07
Plaster and gunite sands	51	501	9.83
Concrete products (blocks, bricks, pipe, decorative, etc.)	135	1,140	8.45
Asphaltic concrete aggregates and other bituminous mixtures	1,470	8,070	5.50
Road base and coverings[2]	1,870	13,300	7.10
Fill	2,770	12,700	4.59
Snow and ice control[3]	508	1,860	3.66
Other miscellaneous uses	45	309	6.91
Unspecified:[4]			
Reported	6,190	33,600	5.42
Estimated	8,530	42,800	5.02
Total or average	29,300	153,000	5.24

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes road and other stabilization (cement and lime).
[3]Includes filtration.
[4]Reported and estimated production without a breakdown by end use.

TABLE 6

INDIANA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2006, 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]	2,360	10,000	3,320	21,300	2,230	9,560
Asphaltic concrete aggregates and and road base materials[3]	817	4,750	2,320	15,600	203	1,020
Fill	805	2,850	1,770	8,910	191	935
Other miscellaneous uses[4]	96	462	445	1,640	13	65
Unspecified:[5]						
Reported	379	2,180	3,820	21,100	2,000	10,300
Estimated	2,330	11,700	2,870	14,400	3,330	16,700
Total	6,800	32,000	14,500	82,800	7,970	38,600

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes road and other stabilization (cement and lime).
[4]Includes snow and ice control and filtration.
[5]Reported and estimated production without a breakdown by end use.