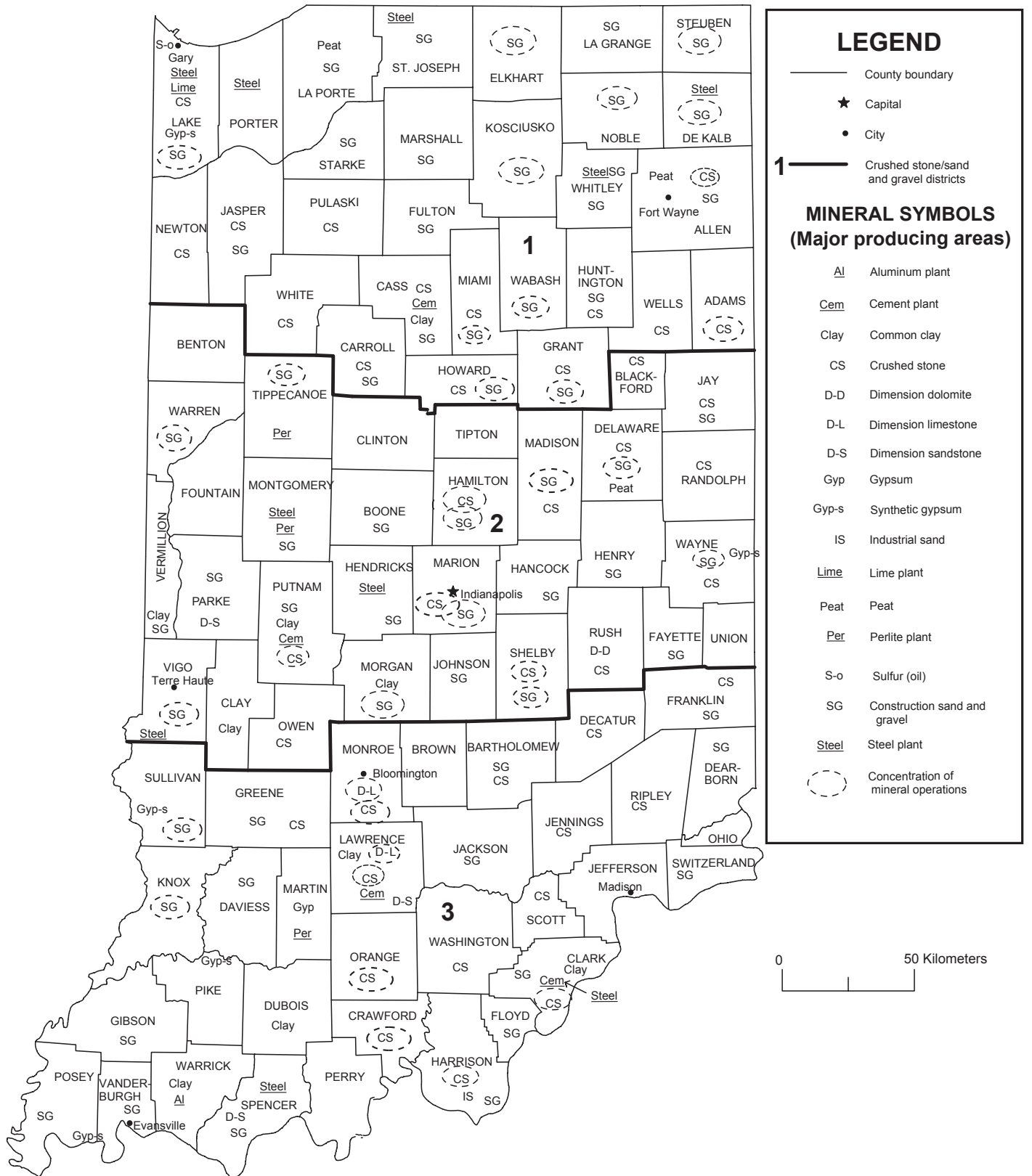




2005 Minerals Yearbook

INDIANA

INDIANA



Source: Indiana Geological Survey/U.S. Geological Survey (2005)

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 2005, Indiana's nonfuel raw mineral production was valued¹ at \$883 million, based upon annual U.S. Geological Survey (USGS) data. This was a nearly 13.8% increase of \$107 million from that of 2004, which was up about 8.4% from 2003 to 2004. The State remained 22d in rank among the 50 States in total nonfuel raw mineral production value, of which Indiana accounted for about 1.6% of the U.S. total.

In 2005, crushed stone, by value, regained the lead amongst the State's nonfuel mineral commodities, followed by cement (portland and masonry), construction sand and gravel, lime, and dimension stone. (For more than a decade prior to 2003 and 2004 when cement led the State's nonfuel minerals, crushed stone had been the State's leading nonfuel mineral commodity.) The combined values of these five mineral commodities accounted for more than 97% of the State's total nonfuel mineral value. Although only small increases took place in the quantities of crushed stone and construction sand and gravel that were produced, and while portland cement production was down slightly, increases in the values of crushed stone (up \$46 million), portland cement (up \$25 million), and construction sand and gravel (up \$19 million) accounted for most of the State's increase in total nonfuel mineral production value in 2005. Smaller yet significant increases took place in the values of dimension stone and gypsum (descending order of value) (table 1).

In 2005, Indiana continued to be fifth in the quantity of ball clay produced as compared with other producing States and was a leading masonry cement-producing State. The State's aggregate mining companies produced substantial quantities of crushed stone and construction sand and gravel, Indiana remaining 12th and 15th in rank, respectively; additionally, substantial quantities of common clays were produced in the State. With only slight decreases in the production of each commodity, except in that of gypsum (production up, slightly), Indiana decreased to 3d from 1st in the production of dimension stone, to 8th from 7th in gypsum, to 9th from 8th in lime, and to 10th from 9th in portland cement.

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 foreign and other domestic sources. Indiana continued to lead the Nation in the production of raw steel, with an estimated output of about 22.4 million metric tons (Mt) of raw steel, down about 9.7% from 24.8 Mt that were produced in 2004, as reported by the

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>.

American Iron and Steel Institute (American Iron and Steel Institute, 2006, p. 76). 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 Survey² (IGS).

Employment

Approximately 3,630 individuals were employed in Indiana's nonfuel minerals sector during 2005; this represented an increase of about 1.8% from 2004 employment figures, according to the U.S. Department of Labor's Mine Safety and Health Administration.

Commodity Review

Industrial Minerals

Clay and Shale.—Boral Limited, Australia's major building and construction materials supplier, planned the construction of a new \$55 million brick plant to be built in Terre Haute in Vigo County. As part of Boral Bricks Inc., the company's U.S. brick-producing subsidiary, the plant capacity was planned to be up to 120 million clay bricks per year in various sizes and colors, about 8% of the company's production in the United States. Boral expected operation at the new plant to begin by the end of 2007.

Construction Sand and Gravel.—Several companies began new sand and gravel operations during 2005, including U.S. Aggregates, Inc. at its Perkinsville Plant in Hamilton County; Carey Realty Co., Inc. in Kosciusko County; Julian Earthwork, Inc. at the Portable Plant #2 in Steuben County; Yellow Creek Gravel Service in Elkhart County; and Bottamiller Enterprises, Inc. at its Power Screen operation, in Hamilton County. Pit closures were reported at Brookfield Sand & Gravel, Inc. in Darlington, Marion County; Darlington Sand & Gravel, LLC in Montgomery County; J & R Stone in Steuben County; Salts Sand & Gravel in Warren County; St. Joseph Materials' Plant #5 in St. Joseph County; U.S. Aggregates, Inc.'s Noblesville Plant #2 in Hamilton County; and W. W. Gravel Company, Inc.'s Roanoke Plant in Whitley County.

Regarding changes in company ownership, W.W. Gravel Co., Inc. sold its remaining plants to Speedway Sand & Gravel, Inc., which included the Columbia City Plant in Whitley County, the Disko Plant in Wabash County, and the Lancaster Plant in Huntington County. Critser Companies, Inc. sold several plants to Vulcan Materials Co. including Bass Lake Sand & Gravel in Starke County, Eagle Creek Sand & Gravel in Lake County, Hanna Sand & Gravel, Co. Inc. in LaPorte County, and Northern

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

Indiana Materials Corp., a crushed stone operation in Lake County. Bethlehem Sand & Gravel Co., LLC sold its Bethlehem Plant 1 in Clark County to Brooks Sand & Gravel, LLC. U.S. Aggregates purchased Stonehenge Concrete Co., Inc.'s Modoc Plant, a sand and gravel operation in Randolph County, but the plant was not in operation at yearend. Stonehenge Concrete Co., Inc. had been in existence for 20 years. Switzerland-based Holcim Ltd. acquired United Kingdom-based Aggregate Industries Ltd., which operated three pits in Indiana in Elkhart County.

Crushed Stone.—In 2005, several new mines opened, expanded, or improved operations and several acquisitions and closures took place. One of the new operations was Rock Creek Materials, LLC's crushed stone operation in Wells County. Hanson Building Materials America, Inc. planned the expansion of its Fort Wayne quarry in Allen County for an additional 50 hectares (ha) (120 acres). Rogers Group, Inc. added a 5-kilometer (3-mile) railroad spur to connect its Bloomington Crushed Stone Co. limestone quarry in Monroe County to the Indiana Rail Road Co.'s Ellettsville line. Owing to this, Rogers Group expected to increase sales of scrubber stone and specialty products and to have a reduction in truck traffic, improving safety overall. Oglebay Norton Co. unified its limestone and lime operations under the name of O-N Minerals. In Indiana, this affected the company's Global Stone Portage, LLC operation in Porter County, changing its name to O-N Minerals (Portage) Company LLC. Watson Gravel, Inc. purchased Parker Brothers Stone Co. in Putnam County, but the company will do business as Parker Stone Co., LLC.

Liter's Quarry, Inc.'s three Indiana mines—Atkins and Cooper Lane Mine, both producing crushed stone in Clark County, and Tom Miller Mine, an underground crushed stone mine in Scott County—were sold to Hanson Building Materials; closure of the Tom Miller Mine was considered to be possible.

Dimension Stone.—While limestone and, less so, dolomite are Indiana's predominant dimension stone products, some dimension sandstone is also produced in Brown, Parke, and Spencer Counties.

Audax Group acquired Victor Oolitic Stone Co., which has been in production since 1898 (CNET Networks, Inc., 2005³). A request to rezone land south of Bloomington in Monroe County to residential use was studied but denied by the area zoning authority because it would have prevented dimension limestone resources that were present there from ever being developed. Victor Oolitic Stone previously had attempted to sell the property, but the Indiana Limestone Company, which held neighboring reserves, was concerned that development of that property would prevent future use of those reserves that it might someday wish to develop.

As part of the Indiana Limestone Heritage Parks Project, limestone trails and a park were in the planning and development stages. As completed, driving tours and walking tours were planned to be part of a "general limestone experience" accessible from the recently renovated Lawrence County History and Genealogy Museum in Lawrence, Bedford County, or the old Woolery Stone Mill in Bloomington, Monroe

County. The Woolery Stone Mill was undergoing renovation into a convention center with a hotel, pub, and restaurant, and additionally, condominiums. Neighboring areas, as well as some other locations, were under consideration for the park (Goss and Owens, 2005§).

Metals

Aluminum.—Alcoa, Inc. announced that it would invest \$330 million into its Warrick powerplant at Newburgh to increase environmental performance, to increase power efficiency, to lower costs, and to further secure long-term, low-cost power for its smelter at its Alcoa Warrick Operations and related downstream business there. An additional \$68 million was to be invested by Vectren Corp., part owner of the powerplant. Wet limestone scrubbers were planned for installation on all four operating units; also planned were the installation of new coal-handling facilities and boiler modifications to allow for the burning of natural gas if needed. At completion, expected by about 2010, sulfur dioxide emissions are anticipated to decrease by 98% and wastewater reduced by 30,300 cubic meters (8 million gallons). The company was also planning to invest another \$45 million to set up a coal mining operation in Friendsville, IL, and to acquire needed equipment. This coal would be transported by railcar to the smelter's powerplant (Alcoa, Inc., 2005§).

Steel.—Company mergers continued in the steel industry. International Steel Group (ISG) merged with Mittal Steel Co., LLC to become the largest steel producer in the world with operations in 14 countries. Steel mills at Burns Harbor, East Chicago, and ISG Railroads were acquired in the transaction. The U.S. holdings of the company were named Mittal Steel USA. Two large integrated steel plants in East Chicago (IN), the Ispat Inland mill, acquired from Ispat International in 2004, and ISG Indiana Harbor Works were combined under one name, Indiana Harbor. With the two neighboring mills being separated only by the Indiana Harbor Canal, they were considered by the company to be one plant, by that understanding making Indiana Harbor the Nation's highest producing raw-steelmaking location. The capacity of the combined plant, which encompassed 1,250 ha (3,090 acres), was slightly more than 9 million metric tons per year of sheet steel products (American Metal Market, 2005§). However, with a slowdown in the market during 2005, Indiana Harbor idled its blast furnaces, H-3 at the former ISG Indiana Harbor Works plant and No. 6 at the former Ispat Inland plant, to do some maintenance while reducing the amount of steel on the market. Two furnaces were left running, with restart of the idled furnaces depending on the market. The company kept another former Ispat Inland furnace running to fill orders. Indiana Harbor expected to save more than \$230 million annually in purchasing, manufacturing, and operating expenses, and more than \$60 million in one-time improvements. The company also planned to close its research facility in Pennsylvania with positions to be moved to the company's East Chicago research center; this would expand that center by 40% and make it the largest one operated by Mittal Steel and one of the largest in the Nation. In other company information, Mittal Steel USA's Burns Harbor Plate operation successfully restarted

³References that include a section mark (§) are found in the Internet References Cited section.

its 279-centimeter (110-inch) plate mill because of an increase in demand for plated steel; it had been idled since August 2000.

Steel Dynamics, Inc., a 9-year old company, ranked fourth nationally among steel companies in capacity. The company purchased land from a neighbor to its DeKalb County plant, with the intent of building an ironmaking facility, Indiana Nugget, which would utilize a cleaner process that does not use coke, but permit problems slowed progress on that project. Steel Dynamics sold land to Heidtman Steel Products, Inc., upon which Heidtman is constructing a mill utilizing unique processing equipment to produce sheet products for truck manufacturers with Steel Dynamics supplying the coils. Steel Dynamics had under consideration the building of a \$200 million rolling mill at its Columbia City mill in Whitley County. The company was building an \$18 million expansion to its Bar Products mill in Pittsboro to add needed processes and additional services for its customers; the facility was to be completed in March 2006 and begin operation that spring.

ForeverGreen Enterprises, Inc., a company with the technology to produce hydrogen from the recycling of wastes such as household hazardous wastes, paints, and solvents planned to build a recycling plant in DeKalb County near Steel Dynamics, which uses hydrogen in its process. Through the process of plasma-induced molecular dissociation, ForeverGreen is able to break down waste materials into basic elements to extract hydrogen, as well as carbon, which can be recycled, all with no emissions released back into the environment. In an area where a high demand for hydrogen already exists, the company anticipated through its planned production capabilities to induce the development of a hydrogen business cluster in the surrounding area (Indiana Development Corp., 2005§).

U.S. Steel Corp.'s Gary Works plant was the company's highest producing raw-steelmaking facility. U.S. Steel was rebuilding the plant's primary blast furnace, No. 13, the second largest furnace in the country; the downtime for construction reduced the quantity of flat-rolled steel produced there in 2005. The unit has had carbon monoxide problems, which previously had resulted in injury as well as death. Many technological features were to be added to the furnace after which it was to be renamed No. 14; production was expected to be greatly improved. About 45% of the iron produced at Gary Works in recent years has been produced in the No. 13 furnace. Work on the furnace was hampered by a variety of problems but was expected to be completed by early 2006 with the life expectancy of the repaired furnace being at least 20 years. The coke battery at the mill closed in October because of a company decision that it was no longer needed. Less than 25% of the coke used at Gary Works came from the plant and coke will be brought to the mill from other U.S. Steel plants. Also, the company intended to begin buying back its common stock when financial conditions became favorable.

Ambassador Steel Corp. and Nucor Corp. were in the process of entering into a joint venture to form Nufab Rebar, LLC to fabricate rebar. A steel strapping company was planned to be built near Nucor Corp.'s Crawfordsville plant, in part to reduce transportation costs. The company was to cut straps from Nucor's steel coils and also provide straps to Nucor.

Environmental Issues and Awards

A portion of the Lake Michigan shoreline has long been dominated by steel mills. A project called the "Marquette Plan" was in the early stages of addressing the redevelopment of much of the shoreline, making approximately 80% of it between Hammond and Portage accessible to the public. More land, largely held by steel companies, may become available, owing to company mergers and operation consolidations; with an improved shoreline, commercial development of the area was expected to follow. Greenways (park/bicycle/walkways) were also included in the plan.

At Buzzi Unicem USA's Greencastle cement plant, an 89% decrease in sulfur dioxide emissions and a 38% decrease in nitrogen oxide emissions took place, as well as reductions in particulate matter and other emissions since its innovative semidry kiln line technology was installed in 2000. The company received an Indiana Governor's Environmental Excellence Award in 2005 for the improvements.

Hanson Building Materials' Versailles Quarry in Ripley County received a Showplace Award in National Stone, Sand and Gravel Association's (NSSGA's) annual About Face competition, the awards of which are presented to aggregate operations for beautification efforts. Rogers Group, Inc.'s Sieboldt Quarry in Lawrence County won a Safety Achievement Award for medium-sized operations in the NSSGA Sterling Safety Awards program. Rogers Group, Inc. Bloomington earned an Excellence Award as part of the NSSGA community relations awards.

Two of Rogers Group, Inc.'s Indiana operations received recognition in the NSSAG's About Face Awards program. The company's Greene County Plant near Bloomfield received an Outstanding Achievement Award and its Graysville Sand and Gravel operation received a First Step Award. Also, Rogers Group's Morgan County Sand and Gravel earned a Certificate of Achievement as part of the NSSGA community relations awards.

The U.S. Environmental Protection Agency (EPA) fined Lehigh Cement Co. \$40,000 for excessive emissions of carbon monoxide at its Mitchell plant. The company will also be required to retest for carbon monoxide and nitrogen oxide emission levels and then file for a modification of its air permit reflecting those findings. The incident took place in 2003 when the company temporarily modified two kilns. Because it was a temporary problem related to that modification, the EPA took that into consideration when determining the fine. The system change allowed the plant to increase its cement production. The EPA also issued a six-count notice of violation to the company for airborne emissions during 2005.

Legislation and Government Programs

The much anticipated Federal highway transportation bill renewal, entitled The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted August 10, 2005, as Public Law 109-59. Under that Federal law, Indiana was allotted \$5.3 billion of the

\$286.4 billion for State highway projects. Indiana's share of the funds increased by 34.7%, more than that of the previous transportation bill and was the eighth largest increase for a State. At least \$400 million was allotted to Highway 69 (I-69) for affected States, including Indiana, to share. Included in the bill was \$58 million for two bridges over the Ohio River in the Jeffersonville, IN, area.

State legislation passed establishing a new agency, the Indiana Economic Development Corporation (IEDC) an economic development agency to replace the Indiana Department of Commerce. The primary purpose of the IEDC, organized as a public-private partnership, was to concentrate efforts on the creation of businesses and jobs in the State. The agency was to be controlled by the State Governor and 11 board members.

Indiana legislators passed IC 36-7.5 Article 7.5 creating the Northwest Indiana Regional Development Authority, charged with further developing the Lake Michigan lakeshore and making transportation improvements in the area. Included in the legislation was a plan to build a new \$550 million to \$700 million stadium in Indianapolis for the Indianapolis Colts professional football team. There were also plans to renovate the nearby convention center, bringing that project's total estimated cost to about \$990 million. Lake County's portion was most likely to be funded by area casinos, a tax on food and beverage, and Indiana toll road income. Funding for needed improvements at the Gary/Chicago Airport was given support from Porter County when it passed an increase in its local income tax to help in the funding of the plan; Porter County planned to review the project in 2 years to examine its progress. The Indianapolis portion could be funded by new taxes that would be imposed on athlete salaries, car rentals, hotels, restaurants, and tickets.

The Indiana Department of Transportation (INDOT) formulated a statewide 10-year plan, with input from legislators, to prioritize about 250 highway projects which include \$5.3 billion for new road construction. Under a proposal called Major Moves for Indiana, an increase in tolls on the Indiana toll road and possibly some funding resulting from the building of additional toll roads would be used for maintenance and other projects under a public-private relationship, the State's toll roads being leased to a private company. This plan would generate additional funds for other highway projects and speed up construction of I-69 by several years. The plan needed approval from the Indiana legislature. Plans progressed for the proposed I-69 extension between Indianapolis and Evansville, and possible intersections were discussed at public meetings. Several other multimillion-dollar highway construction plans were planned by INDOT during the year.

The city of Carmel in Hamilton County enacted a new ordinance to control mining practices that exerted more control over blasting practices in the city. A city mining ordinance passed earlier in the year was withdrawn as a result of a lawsuit filed by Martin Marietta Aggregates Inc., which has a sand and gravel operation in the city. The city has enacted mining ordinances to prevent expansion of the operation for many years but has had to repeatedly withdraw them owing to lawsuits filed by Martin Marietta. Amendments were made to Morgan County's mining ordinance that, while still protecting the public, eased some of the burden placed on mining companies by the

original law. Monroe County Commissioners altered the county zoning ordinance to make rock crushers for approved quarries a conditional use rather than an accessory use. That Commission also established a 5-year community plan for the Stinesville area that will keep most further development downtown, owing to extensive limestone quarries in the area and limestone deposits that could be quarried nearby in the future.

Vincennes University is presenting compliance training for the mining industry in Indiana. In addition, a mining degree program was under development at the 2-year university. This program was planned to be of help and benefit to both the State's coal and its nonfuel mineral mining industries, each having experienced a shortage of miners in recent years.

More than 50,000 high-resolution digital aerial photos of the entire State were taken to update Indiana's geographic information systems (GIS). The IGS published Miscellaneous Map 71, Geologic Map of Glacial and Post-glacial Deposits, Northern Lake County, Indiana, scale 1:40,000, 2 sheets (Brown and Thompson, 2005); and Circular 12, Gold and Diamonds—An Update with added historical facts (Hill, 2005). Additionally, the IGS was in the process of publishing a new Directory of Industrial Mineral Producers in Indiana (Shaffer, 2006).

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

(Thousand metric tons and thousand dollars)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement, portland	2,930	203,000 ^e	3,080	218,000 ^e	3,060	243,000 ^e
Clays, common	385	767	729	1,890	809	13,500
Gemstones	NA	4	NA	4	NA	4
Sand and gravel, construction	32,900	129,000	28,300	116,000	28,400	135,000
Stone:						
Crushed	50,500	237,000	56,800	265,000 ^r	57,500	311,000
Dimension	242	42,100	251	45,500	240	46,300
Combined values of cement (masonry), clays (ball), gypsum (crude), lime, peat, sand and gravel (industrial)	XX	104,000	XX	129,000 ^r	XX	135,000
Total	XX	716,000	XX	776,000 ^r	XX	883,000

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

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.

TABLE 2
INDIANA: 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 ²	74	48,900	\$224,000 ^r	70	47,700	\$250,000
Dolomite	18	7,900	41,600	18	9,750	60,200
Total	XX	56,800	265,000 ^r	XX	57,500	311,000

^rRevised. XX Not applicable.

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

²Includes limestone-dolomite reported with no distinction between the two.

TABLE 3
INDIANA: 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	246	1,370
Riprap and jetty stone	644	4,580
Filter stone	117	709
Other coarse aggregates	1,370	4,900
Total	2,380	11,600
Coarse aggregate, graded:		
Concrete aggregate, coarse	3,000	17,600
Bituminous aggregate, coarse	1,880	12,400
Bituminous surface-treatment aggregate	1,460	10,800
Railroad ballast	637	3,660
Other graded coarse aggregates	3,250	12,500
Total	10,200	57,000
Fine aggregate (-¾ inch):		
Stone sand, concrete	W	W
Stone sand, bituminous mix or seal	341	2,020
Screening, undesignated	189	775
Other fine aggregates	2,500	8,760
Total	3,030	11,600
Coarse and fine aggregates:		
Graded road base or subbase	6,700	40,100
Unpaved road surfacing	3,460	22,200
Terrazzo and exposed aggregate	(2)	(2)
Crusher run or fill or waste	602	3,420
Other coarse and fine aggregates	4,210	23,300
Total	15,000	89,000
Other construction materials ³	16	105
Agricultural:		
Limestone	1,140	5,280
Poultry grit and mineral food	(4)	(4)
Other agricultural uses	(4)	(4)
Total	1,660	7,340
Chemical and metallurgical:		
Cement manufacture	(4)	(4)
Flux stone	(4)	(4)
Sulfur oxide removal	(4)	(4)
Total	4,640	13,600
Special, whiting or whiting substitute	(5)	(5)
Other miscellaneous uses and specified uses not listed	2	8
Unspecified:⁶		
Reported	15,800	88,000
Estimated	4,800	24,000
Total	20,600	112,000
Grand total	57,500	311,000

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

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 coarse and fine aggregates."

³Includes pipe bedding.

⁴Withheld to avoid disclosing company proprietary data; included in "Total."

⁵Withheld to avoid disclosing company proprietary data; included with "Unspecified: Reported."

⁶Reported and estimated production without a breakdown by end use.

TABLE 4
INDIANA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2005, BY USE AND DISTRICT¹

(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	W	W	W	W	1,720	7,050
Coarse aggregate, graded ³	3,220	20,000	2,040	13,800	4,960	23,200
Fine aggregate (-¾ inch) ⁴	W	W	W	W	2,460	8,430
Coarse and fine aggregates ⁵	6,780	41,600	W	W	W	W
Other construction materials ⁶	3	24	13	80	(7)	2
Agricultural ⁸	W	W	W	W	W	W
Chemical and metallurgical ⁹	W	W	--	--	W	W
Special ¹⁰	--	--	--	--	W	W
Other miscellaneous uses	--	--	1	3	1	5
Unspecified: ¹¹						
Reported	1,570	9,720	11,600	72,700	2,650	13,500
Estimated	1,300	6,600	1,200	6,300	2,300	12,000
Total	15,100	88,400	17,700	111,000	24,600	112,000

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

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

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

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

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

⁵Includes crusher run or fill or waste, graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, and other coarse and fine aggregates.

⁶Includes pipe bedding.

⁷Less than ½ unit.

⁸Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

⁹Includes cement manufacture, flux stone, and sulfur oxide removal.

¹⁰Includes whiting or whiting substitute.

¹¹Reported and estimated production without a breakdown by end use.

TABLE 5
INDIANA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2005,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	9,810	\$46,200	\$4.71
Plaster and gunitite sands	27	305	11.39
Concrete products (blocks, bricks, pipe, decorative, etc.)	247	1,520	6.18
Asphaltic concrete aggregates and other bituminous mixtures	2,170	11,900	5.49
Road base and coverings	1,220	6,780	5.55
Road and other stabilization (cement and lime)	90	422	4.67
Fill	3,540	15,200	4.29
Snow and ice control	566	1,850	3.27
Other miscellaneous uses ²	304	1,830	6.02
Unspecified: ³			
Reported	5,190	25,200	4.86
Estimated	5,250	24,100	4.59
Total or average	28,400	135,000	4.76

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

²Includes filtration.

³Reported and estimated production without a breakdown by end use.

TABLE 6
INDIANA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2005, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate (including concrete sand)	2,750	10,600	3,640	17,500	3,420	18,000
Concrete products (blocks, bricks, pipe, decorative, etc.) ²	30	255	124	872	120	701
Asphaltic concrete aggregates and other bituminous mixtures	609	3,090	1,050	5,810	518	3,020
Road base and coverings ³	459	2,700	694	3,420	160	1,090
Fill	774	2,530	2,530	11,600	233	1,020
Snow and ice control	89	259	W	W	W	W
Other miscellaneous uses ⁴	88	343	483	1,790	210	1,290
Unspecified: ⁵						
Reported	659	3,130	4,440	21,500	93	593
Estimated	1,450	6,730	1,490	6,760	2,320	10,600
Total	6,910	29,700	14,400	69,300	7,070	36,300

W Withheld to avoid disclosing company proprietary data; included in "Other miscellaneous uses."

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

²Includes plaster and gunitite sands.

³Includes road and other stabilization (cement and lime).

⁴Includes filtration.

⁵Reported and estimated production without a breakdown by end use.