

## 2006 Coal and Industrial Minerals Report

by K. R. Shaffer

*Editor's note: This report on mining developments in Indiana during 2006 will be published in the May issue of the journal Mining Engineering, a journal of the Society for Mining, Metallurgy, and Exploration, Inc.*

### Nonfuel summary

The Indiana industrial minerals industry was very active in 2006 with total production value reaching \$963 million, a record high for the state and a 9 percent increase over 2005.<sup>1</sup> Indiana ranked twenty-second amongst all states for that year in value of production. Increases in production were recorded for all commodities. Crushed limestone and dolomite, construction sand and gravel, industrial sand, dimension limestone and sandstone, gypsum, common clay and shale, ball clay, peat, lime, freshwater pearls, and masonry and portland cement are mineral commodities that are produced in Indiana. 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 nonfuel sector during 2006, representing a 2.6 percent decrease from 2005 employment levels.

### Aggregates and other industrial minerals

Aggregates comprise the greatest volume of industrial minerals produced in the state with approximately 59.3 Mt (65.4 million st) of crushed stone and 29.2 Mt (32.2 million st) of construction sand and gravel produced, demonstrating increases of 3.1 percent and 2.8 percent, respectively, when

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<sup>1</sup>

Preliminary figures representing unpublished U.S. Geological Survey (USGS) data, subject to change; official USGS 2006 data will be published in the Indiana chapter of the USGS Mineral Yearbook, Area Reports: Domestic 2006, Volume II. All nonfuel mineral production data in this report were compiled by the USGS.

compared to 2005. One new crushed stone quarry received an MSHA identification number and began operations during 2006; Ingram Enterprises, LLC, Ingram Quarry, is located in Monroe County. Five quarries changed ownership during the year. Mathes Quarry, LLC, in Harrison County was acquired by Vulcan Materials Company and Parker Stone, LLC, in Putnam County was acquired by Watson Gravel, Inc. Hanson PLC acquired Material Service Corp., which includes three quarries in Indiana and additional mines in Illinois. The Indiana quarries affected are Monon Quarry in White County, Babcock Quarry in Jasper County, and Ward Stone Quarry in Pulaski County. Engineering Aggregates Corp. plans a 0.5-km<sup>2</sup> (112-acre) expansion east of its present location in Cass County. The processing plant and stockpiles will be relocated. Five Indiana quarries were closed. Junction Limestone, Inc., Uland Quarry in Greene County closed at the end of 2005. Rogers Group, Inc., ceased removing and processing overburden from the Indiana Limestone Company's Crown dimension limestone quarry. The dimension stone mine remains open. Martin Marietta Aggregates Gosport Quarry in Owen County was also listed as abandoned. Hanson Aggregates Midwest, Inc., closed its Tom Miller Quarry in Scott County and Atkins Quarry in Clark County. It acquired both quarries in 2005 from Liter's of Indiana, Inc. The Cooper's Lane Quarry also acquired in that transaction remains active.

Indiana crushed stone producers won several awards in 2006. The National Stone, Sand and Gravel Association renamed its Environmental Eagle awards program to the Environmental Excellence Awards program. In 2006 it awarded a Bronze Award to Hanson Aggregates Midwest, Inc., Aggrock Quarry in Clark County; several other Hanson Aggregates Indiana quarries won certificates of achievement as part of that program. The National Mining Association and MSHA awarded Rogers Group, Inc., Sieboldt Quarry in Lawrence County a Sentinels of Safety Award in the small company category as part of its Sterling Safety and Excellence Awards Program. The quarry also won an award for its 18-year safety record from the Indiana Mineral Aggregates Association.



Three sand and gravel companies received MSHA identification numbers and were in production by the end of the year. New operations include Littleton & Sons Sand & Supply, Mann Road in Morgan County; Eagle Materials, LLC, Smith Valley in Johnson County; and Clifton Sand & Gravel, LLC, in Union County. U.S. Aggregates, Inc., is planning to open a second sand and gravel pit in the Waverly area, but is facing opposition from area landowners. Six operations were acquired during the year: Spray Sand and Gravel, Inc., in Jackson County by Spray, Inc.; Northwest Indiana Aggregates in Jasper County by Morocco Sand & Gravel, Inc.; J. R. Sand & Stone in Steuben County by Shimp Sand & Gravel, LLC; Wilson Excavating's Lyon Pit in Steuben County by Fremont Sand & Gravel, LLC; Brooks Sand & Gravel, LLC's Bethlehem Sand & Gravel in Clark County by Johnson Construction Materials, LLC; and Cook Block & Brick, Inc., in Madison County by Elda Corp. The Bethlehem Sand & Gravel operation had been involved in Chapter 11 bankruptcy proceedings and Cook Block & Brick, Inc. had opened in 2004, operated for six days and closed. It will be operated as Cook Gravel. Nine sand and gravel operations were listed as closed through MSHA during 2006. Pit closures are listed in Table 1.

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

About 245 kt (270 thousand st) of dimension stone were produced during the year, a 2.1 percent increase over the previous year. Indiana ranked third nationally in all dimension stone production during 2006 but usually ranks first in dimension limestone production. Production was halted temporarily at B. G. Hoadley's Maple Hill Quarry in Monroe County when a hoisted block of cut stone fell, killing one employee and seriously injuring another. Dimension sandstone is also produced in Indiana in Brown, Parke, and Spencer Counties. Approximately 3.2 Mt (3.5 million st) of portland



cement were produced in Indiana during the year, a 2.9 percent increase over 2005 production. Common clay production was estimated at 810 kt (893 thousand st) during 2006, a less than 1 percent increase over the previous year. There has been a resurgence of the clay industry in Indiana. General Shale Products Corp. will expand production at its Mooresville plant in Morgan County with a \$30 million, completely automated, robotic production line. Production is expected to nearly double to 200 million bricks per year, 90 million more than currently produced. The expansion is in response to increasing demand for their products. Boral Brick will be opening a brick plant in the Terre Haute area in Vigo County and the Canadian Company Brampton Brick will open one near Farmersburg in Sullivan County. In 2004, BrickCraft, LLC, opened a brick plant in Clay County and is mining its own shale from a pit behind the plant. These developments will increase Indiana clay production significantly. Some of the clay may be harvested as byproduct material from coal mining. Undisclosed quantities of ball clay, gypsum, industrial sand, lime, masonry cement, peat, and freshwater pearls were also produced in the state during the year.

Legislation was passed that amends current state law to allow for some public-private agreements to manage toll roads, roads, and bridges. A result of the legislation is that the Indiana Toll Road will be leased for \$3.8 billion, paid in advance, for a period of 75 years. Interest from money invested from the deal will support highway construction projects in the state, including \$700 million for a planned extension of I-69 between Indianapolis and Evansville. The bill also provides an additional \$75 million to local governments for each of the next two years to help take care of a backlog of road projects. As a result of this increased source of funding, Indiana has budgeted \$826 million in fiscal year 2007 for highway and bridge projects in Indiana. The annual spending on transportation projects should reach about \$1.5 billion by 2015, nearly double the amount spent in year 2014. Of that amount, new road construction is expected to reach \$874 million in fiscal year 2015. That is four times the amount being



spent on new road construction in the fiscal year ending in June 2006 and will strongly affect the Indiana aggregates and cement industries in the years to come.

In 2005 the state of Indiana took detailed aerial photos of the entire state. They can be viewed at <<http://www.indianamap.org>>. The images are also available for viewing on Google Maps <<http://www.maps.google.com>> and the Indiana Geological Survey (IGS) Web site <<http://igs.indiana.edu>>. The IGS released numerous publications of interest to the industrial minerals industry during 2006. Some of them are: Kathryn R. Shaffer, *Directory of Industrial Mineral Producers in Indiana*, Directory 11 (available as paper report or CD-ROM); Margaret V. Ennis, *A Study of the Remediation of Pad Marks on Indiana Limestone*, Report of Progress 34; N. R. Hasenmueller, R. L. Powell, *Karst*, Poster 4; and Todd A. Thompson and Kimberly H. Sowder, *Generalized Stratigraphic Column of Indiana Bedrock*, Poster 6.

## Coal

Preliminary U.S. Department of Energy, Energy Information Administration figures indicate that 32.0 Mt (35.2 million st) of coal were produced in Indiana during 2006, a 2.2 percent increase over 2005 production. Indiana again ranked eighth nationally in coal production. On average, 3,035 individuals were employed in the coal mining industry in Indiana during 2006, an 8.9 percent increase over 2005 employment figures according to MSHA. Nine companies operated 27 coal mines in Indiana. There were 7 underground mines and 20 surface mines. About 23 percent of Indiana's 2006 coal production came from underground mines.

Much of the following information was acquired from Dave Phillips of the Indiana Department of Natural Resources, Division of Reclamation (IDOR). In 2006, IDOR approved and issued three permits affecting a total of 79.1 km<sup>2</sup> (19,557.4 acres) surface and underground. One was an original permit for Gibson County Coal, LLC, Gibson South underground mine in Gibson County, with



1.4 km<sup>2</sup> (341.2 acres) surface and 66.9 km<sup>2</sup> underground (16,520 acres). This mine has not begun operation, but may break ground in spring or summer of 2007. The mine could produce up to 3.8 million tons per year. The other two permits were for modifications from the original surface mine permits. Gibson County Coal, LLC, Gibson Mine in Gibson County allocates 0.1 km<sup>2</sup> (30.4 acres) for a new portal and bath house. Black Beauty Coal Company, Farmersburg Mine, Bear Run East Pit in Sullivan County includes 10.8 km<sup>2</sup> (2,665.8 acres) for a tipple/processing area for the Bear Run East Field. This mine, as well as the rest of the old Minnehaha Mine permits were purchased by Peabody Coal Company from Lexington Coal Company, LLC, and transferred to Black Beauty Coal Company in June of 2005. Lexington Coal Company, LLC, was formed in 2003 to purchase properties sold by Horizon Natural Resources as part of that company's Chapter 11 bankruptcy proceedings. Black Beauty Coal Company began producing from its new surface Miller Creek Mine in Knox County. That mine was also part of the block of properties acquired from Horizon Natural Resources. It is expected to produce around 2 million tons annually. Sunrise Coal, LLC's, Carlisle Mine initiated activities and is now producing. Vectren Fuels is planning two underground coal mines in the Vincennes area to be opened in 2009 and 2010 to replace tonnage from the Cypress Creek surface mine, which will be depleted within the next few years. The new mines will have about 80 million short tons of recoverable reserves. Vectren's Prosperity Mine reduced production during the first part of the year because of poor geologic conditions, but conditions improved before the year ended. The company's Howesville Mine closed following roof control problems. It had only been open for a few months and had been expected to have a lifespan of about four to five years with production of 500,000 tons annually. Two Triad Mining, Inc., surface mines, the Flint Hill Mine in Spencer County and the Lyons Mine in Greene County, closed near the end of 2005 and did not make it into last year's report. There were also ten renewals approved for surface mines, one approved for underground mines, and one for a processing facility. The division also reported 325



nonsignificant revisions approved with an additional 18 incidental boundary revisions and 16 land-use changes. There was a lot of interest in permit transfers during 2006 with 39 transfers of surface mine permits, 3 transfers of underground permits, and 3 transfers of processing facilities occurring during the year. Several of the transfers were organizational in nature with Vigo Coal Company, Inc., becoming Vigo Coal Operating Company, Inc., and Peabody Coal Company becoming Peabody Coal Company, LLC. Some new companies have entered the Indiana coal industry. James River Coal Company purchased Triad Mining, Inc., in 2005. In 2006 Bronco Energy bought White River Coal, Inc., Hazleton Mine, and the investment company RLF Chinook Properties bought Lexington Coal Company, LLC, permits for the Chinook Mine. The RLF Chinook purchase was of the last properties held by Lexington Coal Company, which as stated above, was formed out of the bankruptcy of Horizon Natural Resources.

Bronco Energy filed for Chapter 11 bankruptcy and the Hazleton Mine could be sold again. Solar Sources, Inc., sold its Monroe City Mine to Black Beauty Coal Company. The mine has exhausted its reserves, but Black Beauty will use the mine to improve ventilation for its neighboring Air Quality Mine and also use preparation facilities to boost production from that mine. They will also use the refuse disposal area. Vigo Coal Operating Company, Inc., transferred the Hurricane Creek Mine to Triad Mining, Inc., and Sunrise Coal, LLC, submitted a transfer for their Carlisle Mine, reflecting a new ownership interest. Indiana Land and Mineral Company, LLC, acquired the Pike 1 and Pike 2 complexes in Pike County from Lexington Coal Company, LLC, in 2005. In 2006 the properties were split up and transferred to Solar Sources Underground and Triad Mining, Inc., both of which are contemplating future underground reserves with Indiana Land and Mineral retaining some of the property for future slurry fines recovery. There has been an increased interest in Illinois Basin Coal with talk about new power plants and scrubber upgrades.



Exploration revealed marketable deposits of coal in a state fish and wildlife area in Daviess County, but a lack of local support prevented the project, proposed by Black Beauty Coal Company, from moving forward.

Two coal mines won National Mining Association and MSHA Sentinels of Safety Awards. Black Beauty Coal Company's Viking Mine in Daviess County won in the large surface-coal category and Triad Mining, Inc.'s, Freelandville East Mine in Knox County won in the small surface-coal category.

In Indiana, as an outcome of the heightened national interest in mine safety following several deadly mine accidents in other states, underground mine inspections were reinstated by the Indiana Bureau of Mines and Mining Safety. The inspections had been suspended in 2005 owing to a lack of adequate funding, the loss of an inspector, and the perception that it duplicated efforts of the U.S. Mine Safety and Health Administration. The issue is of heightened concern because an estimated 3,500 new, inexperienced miners may be working in the state's coal mines within five years, according to the Indiana Bureau of Mines (<http://www.in.gov/labor/mines/vincennes.html>).

Coal-related publications published by the IGS during 2006 include: Agnieszka Drobnik, Maria Mastalerz, and Kathryn R. Shaffer, *Coal Supply and Demand in Indiana*, Miscellaneous Map 72; and Agnieszka Drobnik, Maria Mastalerz, and Kathryn R. Shaffer, *Coal, Electricity, and Gas Transportation Systems in Indiana*, Open-File Study 06-03.

