

In the News

Collapse of Abandoned Mine Sinks Indiana Home

Old “roof-and-pillar” coal mines present a hidden hazard

Old mines lurk below millions of acres across the U.S.; some have been out of use for so many years they don't appear on any modern maps. All too often, unlucky homeowners learn about abandoned mines only when one collapses under their property. The resulting subsidence — or sinking of the ground's surface — can severely damage a structure.

That's what happened to Sheila Schmitt's Boonville, Ind., home. Schmitt found out earlier this year that her 2-year-old house had been built above a mine — but not until her walls had cracked, her floors had tilted, and her doors wouldn't close. After Warrick County building commissioner Michael Winge determined that the house was uninhabitable, investigators from the state's Department of Natural Resources con-

cluded that the damage was caused by mine subsidence.

Winge says it was the first mine subsidence he'd seen in that part of the county. “This is the only one of these I have had to deal with in the five years or so I have been here,” he says, adding that most subsidence problems



Some 56 feet beneath Sheila Schmitt's Indiana home, an abandoned mine collapsed. Now Schmitt's house is sinking. Deep cracks have developed in the building's brickwork, both along the foundation (above) and higher up in the walls (right). The house has been declared uninhabitable.



NAHB Computer Game **3**

Regulations Study **4**

Storm-Damage Specialty **5**

Resources **6**

The probability of an earthquake striking the San Francisco area in the next 25 years is 62 percent, according to the U.S. Geologic Survey. Yet 86 percent of homeowners in California, Reuters reports, have no earthquake insurance. A study released by Risk Management Solutions, a firm specializing in modeling risks from catastrophes, estimates that a 7.9-magnitude earthquake — comparable to the one that leveled San Francisco in 1906 — would cause \$260 billion in property damage.

Rising gas prices are changing the way home buyers think about their daily commute. According to the online real estate site HomePages.com, more than 40 percent of home buyers now consider a short commute to be an important factor in deciding where to live, compared with 9 percent in a similar survey conducted last year.

In the News

It's a boomer boom for remodelers: A recent NAHB poll finds that baby boomers (age 46 to 64) continue to be the nation's best remodeling customers. Of all the remodelers surveyed, 91 percent had provided service to boomers. Compare that with the percentages who had worked for other age groups: 26 percent for 36- to 45-year-olds, 13 percent for seniors 65 and up, and 2 percent for customers under 35.

The Campbell County Commission had a devil of a time this spring approving the name for a new subdivision in Gillette, Wyo. The moniker "Sinnerville" — in honor of developer Jason Sinner — generated some heated debate, with one commission member predicting a negative effect on property values. Sinner himself, after saying he was "trying to put some affordable housing in this town," observed that "there's a 'Butts' subdivision here; I'd rather live in Sinnerville." Ultimately, the name was approved.

Maine and New Hampshire are enacting stricter VOC regulations for architectural and industrial maintenance coatings. The new limits, based on Ozone Transport Commission recommendations, went into effect on January 1 of this year in Maine and will be effective January 1, 2007, in New Hampshire. Under the rules, all coatings sold or used must comply with the lower limits, except small containers, aerosols, shop-applied coatings, and coatings manufactured before the regulations went into effect.

are due to conditions other than mines, such as buried trees or debris.

Homeowner Schmitt told local reporters she hadn't known there was a mine some 56 feet under her home when she bought it and she didn't own mine subsidence insurance. She has since filed a civil lawsuit against the developers of the subdivision.

Schmitt's situation is far from unique. Hundreds of homeowners across the country have found themselves in similar straits as old mines have given way beneath their properties. The mine under Schmitt's house — the Henry



In Pennsylvania, 1 million houses — including these two — sit above old mines. Only 5 percent of their owners have mine-subsidence insurance.



Photos courtesy Pa. MSI Fund

Korff Mine, active from 1909 to 1934 — was typical of old operations in that it employed the "roof-and-pillar method," in which 20 percent to 50 percent of the coal was left behind in columns that held up the mine ceiling. Over time the pillars in these mines have begun to collapse, causing the bedrock ceiling and soil above to cave in. The surface ends up sagging only about 2 feet — roughly a third the depth of the coal seam — because of the way the intervening layers settle.

Whether and when an old mine's pillars will collapse or how long a subsidence event will last is impossible to predict, experts say. "Sometimes it happens pretty much overnight," says Joseph Taranto, manager of Mine Subsidence Insurance and Technical Services at Pennsylvania's Department of Environmental Protection.

This is especially true of shallow mines, says Robert Gibson, a supervisor

In the News

at the Illinois Department of Natural Resources Abandoned Mine Lands Division. Subsidence from a relatively shallow mine, he says, tends to measure somewhere in the range of 6 feet to 12 feet in diameter. “These pits open quickly, you fill the hole, and solve the problem. Houses can usually bridge them,” he explains.

Sags over deeper mines, however, can take five to 10 years to finish subsiding, he says. The resulting depressions are typically 350 feet wide and cause damage to a home due to uneven settling. In such cases, he notes, the house can sometimes be protected temporarily by lifting it on bracing to separate it from the sinking foundation.

“You don’t want to get in there and make repairs until it finishes moving,” Taranto says, but once the ground has stopped sinking, “the vast majority of houses are reparable.” Permanent concrete piers can be used to stabilize or lift the foundation.

Not surprisingly, experts caution against siting a building above an abandoned mine. Builders who do build in an area with a history of mining, Gibson says, should stay away from slab-on-grade construction and brickwork. Wood is best because it has some flexibility, and large expansion joints can absorb a certain amount of movement, too.

In commercial situations, grout can be pumped into the abandoned mine. However, this approach can easily cost \$1 million per acre, Gibson observes, and isn’t practical for residential areas.

Although land above abandoned mines is seldom subject to special building codes and zoning, most states recommend — and some insurers require — that builders consult with an engineer before building in these “undermined” areas. Severely

To read more about mine subsidence, go to:

■ Indiana Department of Natural Resources, Division of Reclamation, www.in.gov/dnr/reclamation/

■ Pennsylvania Department of Environmental Protection, Mine Subsidence, www.dep.state.pa.us/MSIHomeowners/

■ Ohio Department of Natural Resources, which offers the abandoned-mine-land development guide “Ask Before You Build,” www.dnr.state.oh.us/mineral/abandoned/index.html

■ Colorado Division of Minerals and Geology, mining.state.co.us/AMLSubsidence.htm

■ Illinois Department of Natural Resources, dnr.state.il.us/mines/aml/index.htm

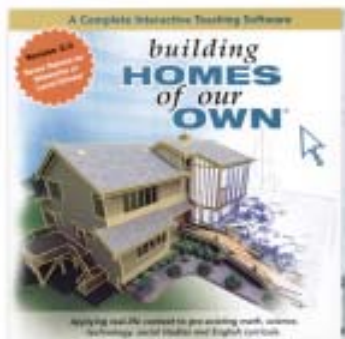
undermined states like Pennsylvania, Ohio, and Illinois are currently transferring old mining maps to modern media to make data about the existence of a mine, its depth, and its orientation available to engineers, builders, and local building commissions.

Costs for residential damage due to mine subsidence generally run to about a third of the home’s value, Gibson estimates, adding that it’s rare for a house to be a total loss.

In Indiana, building commissioner Winge expects that the Schmitt house will undergo repairs.

“The [original] builder in this case used poured foundation walls, and this really helped reduce the amount of settling we have to deal with,” he says. “We can raise the house, then take it down to its studs.” At that point, he adds, “you’ll be starting from a framed home.” — *Laurie Elden*

“Building Homes of Our Own” is a new educational computer game created by the NAHB and a team of educators. Playing the role of builders, students choose a site, get a building permit, build a house, and place it for sale. As in the real world, well-meaning neighbors offer warnings, community-review meetings supply input, and experts (identified by a shirt and tie) give advice. The program aims to teach the basic concepts of how homes are built, while reinforcing subjects like math, science, and English.



The start of 2006 marked a battle for supremacy among building-supply companies. The sale of Lanoga to Fidelity’s Pro-Build Holdings, along with Stock Building Supply’s purchase of Home Lumber Co., has weakened 84 Lumber’s dominance. Striking back, 84 announced a plan to double sales by opening 125 new stores and closing 67 underperforming ones.

In the News

Minnesota passed notice and opportunity to repair (NOR) legislation in May, joining 29 other states with similar laws. Homeowners in Minnesota must now give builders 30 days to inspect a problem and offer a solution before filing a lawsuit.

Mississippi has elevated home-repair fraud to a felony from a misdemeanor in response to an increase in complaints after last year's hurricane season. The state has made a number of arrests since last September on repair-fraud charges, but crimes committed before March 13 will still be prosecuted under the old law.

Marcio Lira, the owner of a Connecticut masonry firm, now faces a manslaughter charge for his role in a 2005 trench collapse. Ademilson Vieira had been repairing a retaining wall when a section of the unprotected trench collapsed, killing him. Lira was at the work site at the time of the accident. OSHA ruled in November that the death could have been avoided if appropriate safeguards were in place at the time, and fined Lira \$20,100 for the violations.

The license of Virginia contractor John Edward Callahan was revoked in May after he used untrained homeless men to remove large amounts of asbestos and dump it in curbside trash. Although Callahan's advertising claimed otherwise, he was not licensed to do asbestos-removal work. He had been under federal and state investigation since February 2005 for a variety of environmental and labor violations — and had previously been fined \$12,000 in asbestos-related cases. Also in May, an asbestos-removal firm in New York was shut down; its owners were fined \$100,000 and its general manager was sentenced to 18 months in prison for improperly removing asbestos and other violations.

Study Says Regulations Jack Up Housing Costs

Massachusetts builders have been saying for years that Boston-area housing costs are high because of land-use regulations, not because of a land shortage. Now they have an economic study to back up their anecdotal evidence.

"Regulation and the Rise of Housing Prices in Greater Boston," published in January, is the product of research by the Pioneer Institute — a self-described proponent of limited government — and Harvard University's Rappaport Institute, which studies local governance issues.

As the report points out, Boston-area housing price increases from 1980 to 2004 were the second highest in the U.S. (behind New York's Long Island). Rising prices are a sign of strong demand, but in the Boston area, not enough housing has been built to meet this demand: A mere 5,001 single-family homes were permitted in 2004.

Edward Glaeser, an economics professor at Harvard and lead author of the study, used published economic formulas to calculate the effect that the limited housing supply has had on prices in the Boston area. According to his calculations, if housing supply had increased by 27 percent since 1990 — rather than by 9 percent, the actual amount — prices would probably be 23 to 36 percent lower than they are now.

As part of the study, the two institutes spent two years developing a database of land-use regulations in 187 communities around Boston. Glaeser reports that his analysis of the resulting data found an average population density of 1.4 acres per household — a fairly low density for suburbs.

He also notes that the value of a quarter acre under a new home lot (excluding the value of the house) exceeds by 20 times the value of a quarter acre that extends an existing lot. If there were a true land shortage, Glaeser argues, the value of the two quarter-acres would be the same. The large price differential, he says, shows that "surviving the regulatory process adds enormous value" to land.

Glaeser examined what he terms a "dizzying array" of local land-use regulations, such as growth caps, minimum lot sizes, restrictions on lot shape, wetlands regulations, subdivision rules, and septic regulations. He discovered that of all the regulations, minimum-acreage requirements have had the most significant effect on housing costs and availability. Increasing the minimum lot size by a quarter

acre, he reports, correlates with a 10 percent decrease in the total number of permits issued by that jurisdiction. Increasing minimum lot size by a full acre pushes housing prices up by more than 10 percent — and causes the number of affordable homes to drop by somewhere between 8 percent and 20 percent.

Glaeser says he wasn't able to determine the separate effects of the other regulations with any statistical certainty. However, when he looked at wetland, septic, and

subdivision rules as a group, he says he found “statistically robust results that each additional form of regulation is associated with a 10 percent decline in annual permits.”

In the report, Glaeser acknowledges that many land-use regulations serve a purpose. But he argues that their economic costs aren't being sufficiently weighed in policy decisions. Because his research suggests that there are few incentives in the Boston area for local governments to encourage growth, he suggests that the state offer communities rewards for policies that promote new construction. — *Laurie Elden*

Storm Damage Creates Business Niche

Last year, Tennessee restoration contractor Mike Dugan began making plans to open a local office in Nashville, some 200 miles west of his Memphis headquarters. He had good reason to believe the process would go smoothly: The Nashville office was to be his fourth.

He'd set up his first regional office in Winter Haven, Fla., in 2004 to repair damage caused by Hurricanes Ivan and Charley. And he'd opened another in New Orleans last year, when demand for reconstruction work reached stratospheric levels in the wake of Katrina.

Mother Nature, however, had plans of her own. In April of this year, with the anticipated opening of the Nashville office still several months away, central Tennessee — including Nashville itself — was slammed by a series of tornadoes that damaged or destroyed nearly 2,000 homes and businesses. “The storms threw us into a little bit of a panic,” Dugan says. “We had to get things up and running a lot faster than we'd planned on.”

But 20 years of experience repairing storm, flood, and fire damage has taught Dugan the importance of moving quickly when necessary. With the help of partners from other parts of the country, his Nashville office snapped into action; before long it was handling 80 projects a month.

Recently, Dugan took a brief break from the crazy pace to offer some thoughts on how to succeed in such a demanding line of work. His advice follows.

Get to know local insurers. “Every insurance company keeps a list of restoration contractors it works with,” he says. “In some cases, they'll even guarantee the quality of a contractor's work.” Because most customers are referred to restoration contractors by their insurers, a good reputation with area insurance companies is much more important than advertising or marketing.

Set up offices in several locations. “Because storm damage accounts for a lot of our work, there can be a huge amount of business in one area when it's quiet everywhere else,” he notes. In addition to smoothing out the revenue stream, local offices make it easier to maintain solid relationships with local subs and suppliers.

Move fast. Starting and finishing jobs quickly helps prevent additional weather damage and makes for satisfied customers and insurers. It also helps the bottom line. For example, after a severe storm, the Federal Emergency Management Agency will haul away construction waste left on the curb free of charge. “That usually lasts only a few weeks, but in New Orleans after Katrina it was extended to a couple of months,” Dugan says.

Hire quality employees. “We shop for employees from other companies a lot, because the best people in an area are usually already working,” he says. Willingness to travel is helpful but not essential; although many of Dugan's 150 employees work only on local jobs, a core group capable of tackling distant jobs on short notice adds needed flexibility. — *Jon Vara*

Remodeling in Post-World War II Suburbs

It's no secret that the post-World War II housing boom left a legacy of homes now in need of modernizing. Frequently, these old places are torn down and replaced with oversized McMansions. Some homeowners, however, are bucking the trend and opting instead to renovate or expand in a way that preserves the neighborhood's character.

To support that impulse and boost the revitalization of aging suburbs, the Mid-America Regional Council, a nonprofit group of Kansas City-area governments, formed the First Suburbs Coalition (www.marc.org/firstsuburbs) in 2002 and charged it with addressing and publicizing the issues surrounding these homes.

In keeping with its mission, the coalition has published a guide to remodeling houses built between 1940 and 1970. The 36-page *Idea Book: Updating Post-World*

War II Homes contains floor plans for small-, medium-, and large-scale remodels of four post-WWII house types: ranches, capes, split-levels, and two-story residences. It also reviews basic design considerations for exteriors and offers tips for the massing, proportion, and scale of additions.

You can order the \$10 guide by calling the Mid-America Regional Council at 816/701-8243.

