

**EARTH
DAY
SPECIAL**

THE BURNIN

The incredible true
story of an underground
fire that turned
Centralia, Pennsylvania,
into a ghost town

BY JUSTIN O'NEILL

CAROLYN KASTER/AP PHOTO (BACKGROUND); ISTOCKPHOTO.COM (FLAMES); SHUTTERSTOCK (PAPER)

UP
CLOSE

Cause and Effect In this story, you will discover how a series of events that started millions of years ago led to a problem that still affects a Pennsylvania town today. Look for this chain of causes and effects as you read.



**LOOK FOR WORD NERD'S
10 WORDS IN BOLD**

G T O W N

Valentine's Day, 1981, was a sunny Saturday in Centralia, Pennsylvania—a friendly, small town with a big secret.

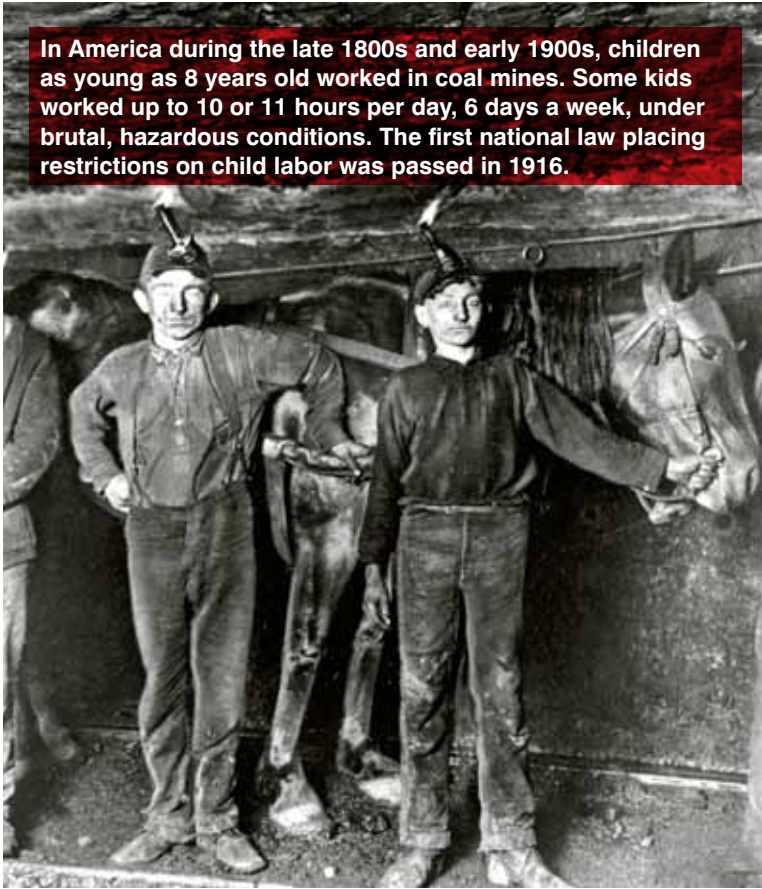
Todd Domboski, 12, and his cousin Eric, 16, were in their grandmother's backyard, where Todd would often play.

That morning, Todd saw something strange. He noticed a wisp of smoke rising from a nearby pile of leaves. Curious, he walked over for a closer look. Suddenly, a hole opened up beneath him.

Todd sank to his knees in the wet, warm earth. When he tried to step out, the hole got deeper, wider. Strange vapors smelling like rotten eggs gushed from the pit. Petrified, Todd tried to push himself out, but it was no use. The ground was collapsing, sucking Todd down into the **muck**. Soon he was underground, three feet below the

**DON'T MISS
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In America during the late 1800s and early 1900s, children as young as 8 years old worked in coal mines. Some kids worked up to 10 or 11 hours per day, 6 days a week, under brutal, hazardous conditions. The first national law placing restrictions on child labor was passed in 1916.



surface, plunged into blackness and buried in hot, steaming mud.

Whooosssshhhhh!

Below, Todd heard the sound of wind. It sounded like a hurricane. In fact, it was the roar of an enormous underground fire. It seemed to call for him, pulling him deeper and closer to the heat.

It was then that Todd had the terrible thought that he was going to die.

Town on Fire

As news of Todd's accident spread, many residents already knew the cause: the fire.

Sure, the residents of Centralia knew about the fire. It was a fact of town life: Since 1962, a fire had been burning underground in Centralia. The fire feeds off the vast amounts of coal below Centralia and the surrounding area. Though invisible from the surface, the fire is ferocious—fiercely hot, powerful, and

expanding rapidly.

But, in 1981, no one worried much about it. That's because, aboveground, Centralia looked like a typical small Pennsylvania town.

After Todd's accident, the fire was all anyone could talk about. Suddenly, it seemed that the problem was too dangerous to ignore. If that could happen to Todd, it could happen to anyone.

To understand how Todd ended up scrambling for his life, and where Centralia's underground fire came from in the first place, you have to understand the beginning of the story—before Todd, his parents, his grandparents, or any other human being lived in Centralia.

The Very Beginning

The story of Centralia begins 300 million years ago. Then, the area was a wild, lush place full of life. The climate was hot and damp. Ferns and grass grew as tall as trees. Huge insects zoomed through the air while prehistoric reptiles and amphibians roamed the land.

But Earth's climate was changing. The oceans rose and covered the swamp-like land with sediment—the mud and soil from the bottom of the sea—burying the dense forests. The sediment pressed down on all of those plants and animals with tremendous pressure over millions of years until they were hardened into a dense black rock.

Humans discovered that when burned, this black rock is an excellent fuel that can **generate** heat and electricity. Today, we call it coal. Early uses of coal date as far back as 1000 B.C., and it's still used today. During the 19th century in America, coal made a big difference: It was cheap and efficient compared with other fuels available at the time. It was used for heat,

electricity, and power for ships and trains. The problem is that coal is not easy to get. Most coal is buried hundreds of feet belowground.

The coal found in Centralia is called *anthracite*. It's one of the world's most rare and valuable kinds of coal. Pennsylvania has one of the world's largest supplies. Anthracite doesn't catch fire as easily as some other forms of coal, but when it does, it burns for a long, long time.

Just ask any of Centralia's former residents—they know all about it.



A Bustling Town

Centralia was founded because of coal. Coal mines—human-made caves used to dig for coal—opened throughout the area during the 1800s. By the 1870s, Centralia had more than a thousand residents, and the vast majority worked in the mines. By the early 1900s, Centralia bustled with stores, hotels, and theaters.

But mining is brutal work—exhausting, dirty, and extremely dangerous. Men, women, and even young children—many new immigrants from Europe—worked under horrifying conditions. Accidents were common, and many miners were killed in cave-ins, explosions, and other terrible mishaps.

After World War II, demand for oil fuel increased, eventually **surpassing** coal, and soon all of Centralia's mines were closed. By then, however, there was an enormous network of tunnels under Centralia, resembling a huge ant colony. Air can move freely through the underground maze. To thrive, fire needs two things: air and fuel (such as coal). Decades of coal mining in Centralia had accidentally created the perfect conditions for fire.

Centralia's fire began in May 1962 in a landfill, a pit filled with the town's garbage. No one is sure exactly how or why the fire started, but one common theory today is that the blaze was purposely set to burn the huge pile

of trash—a common practice at the time. Somehow, the fire got through an opening to the mines and **ignited** the coal.

It was the beginning of Centralia's end.

Heated Debate

That was 20 years before Todd's accident. During those years in between, living in Centralia became less and less safe. Some residents suffered from unexplained headaches,



AP PHOTO: JIM McHAHON/MAPMAN

nausea, and drowsiness (likely symptoms of gas inhalation). A resident's basement walls were reported to be hot to the touch, and his underground gas tanks heated to dangerous levels, risking disastrous explosions. Carbon monoxide monitors—which measure poisonous gas in the air—became must-have features in every home. Shortly after Todd's accident, a 62-year-old man nearly died in his sleep when he was overcome by poisonous gas.

Meanwhile, a vicious debate raged among residents and politicians: Should they evacuate? Or should they stay and fight the fire? If so, who would pay to put the fire out? More than \$3 million had already been spent on efforts to halt the fire's growth. The town had tried digging

out the burning coal, dousing it with water, and injecting goopy chemical **extinguishers** underground, but nothing seemed to work.

They were still arguing on Valentine's Day, 1981—and that's when a 12-year-old boy suddenly changed everything.

"Awful Scary"

Fighting his terror, Todd managed to grab onto some tree roots. Those roots saved his life.

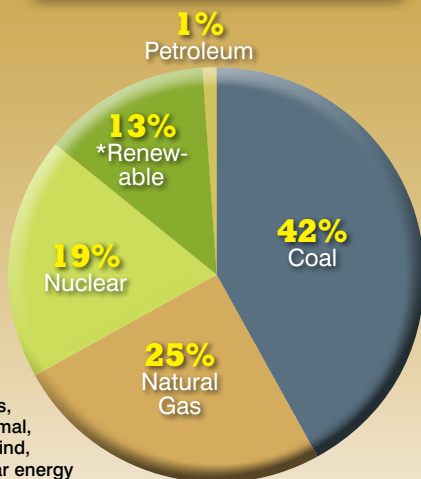
He held on long enough and screamed loud enough for Eric to realize what was happening, reach his arm into the pit, and pull his cousin out. Todd survived—incredibly—with barely a scratch. The pit he fell into was later found to be at least 150 feet deep, and the gas

Coal Today: Facts & Figures

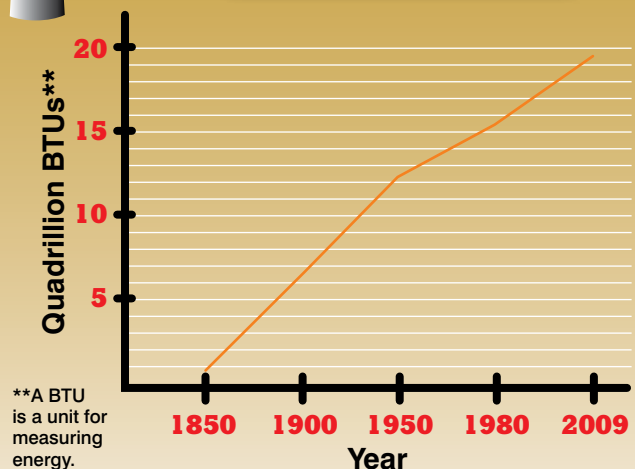
Today, 93 percent of the coal used in the United States is burned in power plants to produce electricity. Oil, which fuels our cars, trucks, and airplanes, is the number one source of energy in the U.S. Still, we use more coal now than ever.

Check out these graphs to learn more:

Where Does Our Electricity Come From? Sources for Generating Electricity, 2011



How Much Coal Is Used in the U.S.? 1850-2009



Source: U.S. Energy Information Administration

How has the purpose of coal—and the amount we use—changed in the U.S. since mines first opened in Centralia? (Use information from the article to help you.)

spewing from it contained lethal levels of carbon monoxide. His survival was miraculous.

“It was awful scary,” Todd told reporters just after the incident. Indeed, the accident left him with severe **claustrophobia**, which lasted for years.

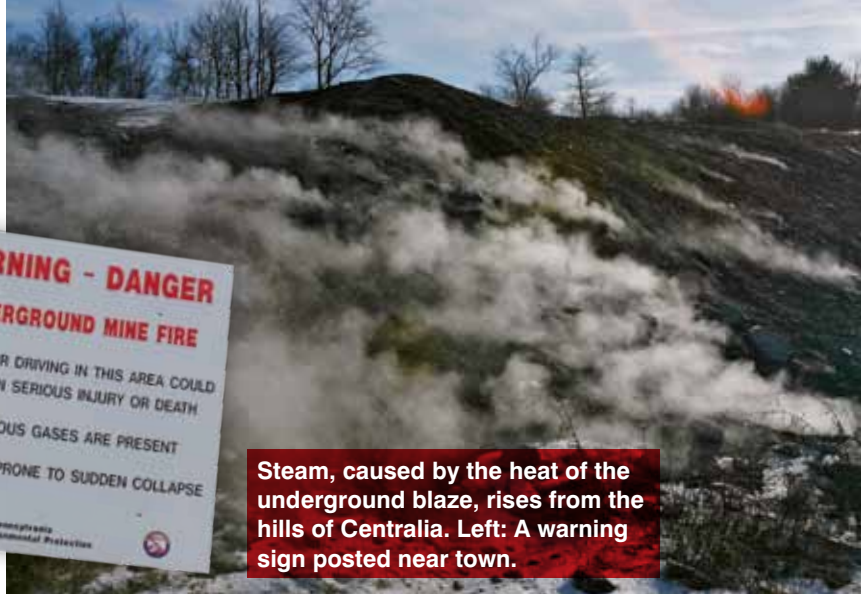
The pit was created by *subsidence*, an effect of the fire. When fire eats away at the old mine tunnels, it weakens support beams and pillars. The tunnels can then cave in, leading to sinkholes—sudden openings in the surface like the one that Todd fell into—and bursts of toxic gas and steam. Centralia was literally collapsing; the town was being swallowed.

Though Todd lived, it soon became clear that his town was doomed. The estimated cost of stopping the fire became so high that the government decided it had no choice but to give up and let the fire burn itself out.

All that was left to do was get everyone out.

Ghost Town

In 1983, the federal government asked families to leave Centralia, offering to buy their houses. Most accepted, relieved to be away from the danger and sadly saying goodbye to the town they had called home. But a small number of residents wasn't ready to give up so easily. They weren't afraid to live in Centralia, despite what had happened to Todd. But nothing improved, and finally, in 1992,




Steam, caused by the heat of the underground blaze, rises from the hills of Centralia. Left: A warning sign posted near town.

Pennsylvania's governor enacted a law **evicting** all remaining residents. Living in Centralia was no longer legal. Still, some refused to go.

It is expected that there is enough coal for Centralia's underground fire to continue to burn, spread, and **consume** more and more land for decades or maybe even hundreds of years to come. And no one is doing anything about it.

Today, Centralia is a ghost town. Nearly all of its buildings—545 homes, plus stores, churches, and schools—have been abandoned and torn down. Some roads are closed, covered with graffiti, and impossible to travel due to the giant cracks caused by subsidence. Sidewalks, driveways, and empty lots are overgrown with weeds. Trees struggle to survive. It is estimated that fewer than 10 residents remain, disobeying the law to stay in the town they still can't bring themselves to give up on.

Sometimes, steam rises from the hills—evidence of the **inferno** still raging below the sad, quiet surface. 

WRITE TO WIN!

Imagine you are the former mayor of Centralia and you have been invited to an Earth Day event to educate people about the town. Write a speech explaining the town's history and the causes that led to the evacuation. Send your entries to "Centralia Contest" by May 15, 2013. Ten winners will each receive a copy of *The Breaker Boys* by Pat Hughes. See page 2 for details.

FIND AN
ACTIVITY
SHEET
ONLINE!

