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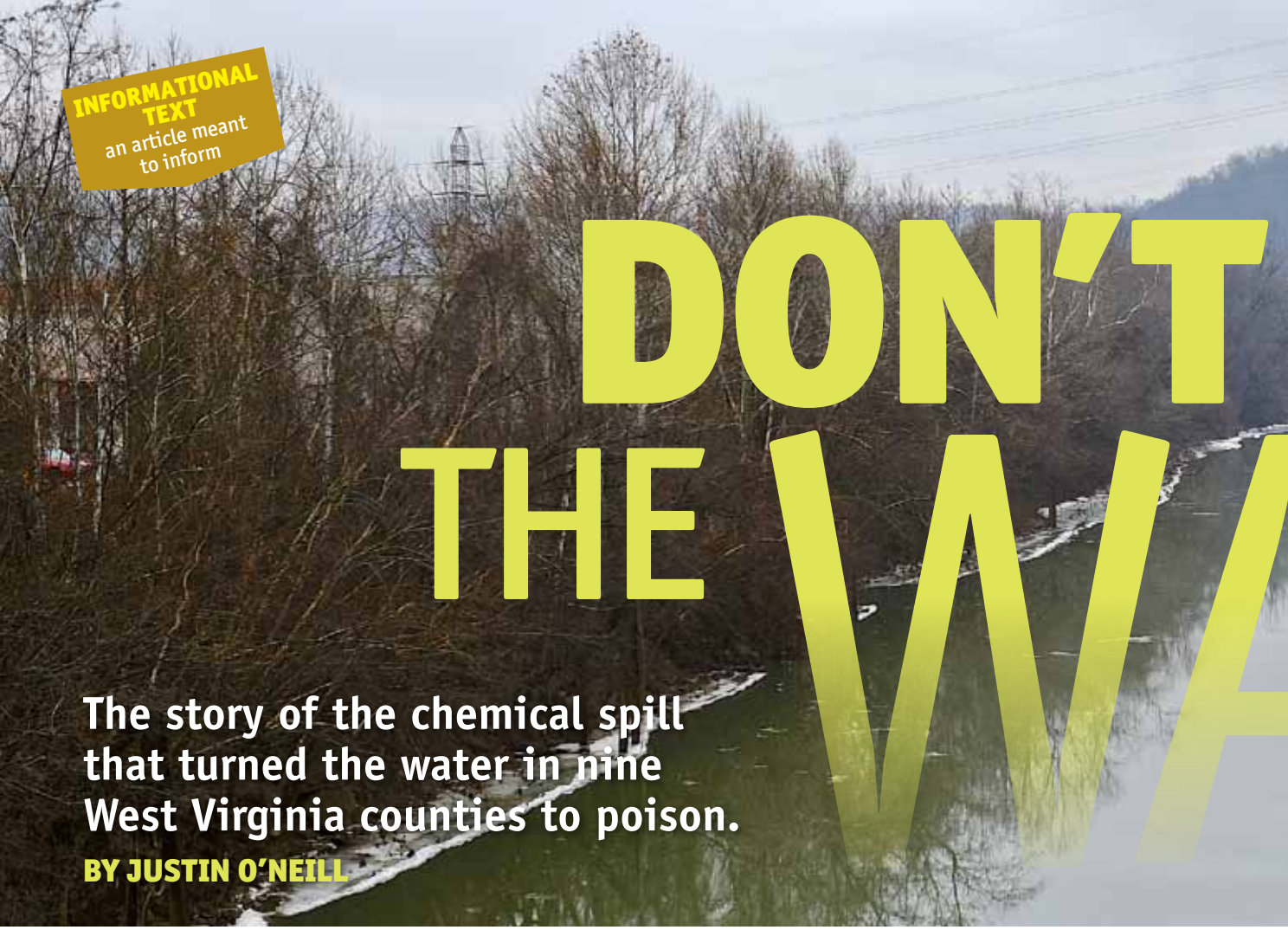


DON'T THE WA

The story of the chemical spill that turned the water in nine West Virginia counties to poison.

BY JUSTIN O'NEILL

Schools, restaurants, and hotels shut down. Hospitals and nursing homes struggled to function. As many as 300,000 people across nine counties were told not to use their water—for anything.

Not for showers, toothbrushing, laundry, or cooking, and definitely not for drinking.

This was the situation for days in southwestern West Virginia after a chemical spill contaminated the water supply. On January 9, 2014, in the city of Charleston, about 7,500 gallons of a chemical called MCHM leaked out of a small hole in a steel storage tank belonging to Freedom Industries. The chemical **leached** into the Elk River, about a mile and a half upstream of a treatment and distribution center of West Virginia American Water, which provides water to the Charleston area.

The first sign of trouble was a strange licorice smell **emanating** from sinks and showers. MCHM, or *4-methylcyclohexane methanol*, is used in processing coal, the mining of which is a major industry in West Virginia. Exposure to MCHM can cause throat and eye irritation, vomiting, skin rashes, and breathing difficulty. In the days following the spill, hundreds sought medical treatment.

West Virginia officials quickly ordered a water-use ban across the affected area. President Barack Obama declared a state of emergency. Truckloads of fresh water were rushed in. But some were quick to criticize lawmakers, saying more could have been done to **regulate** the safe storage of potentially hazardous chemicals like MCHM. Why was Freedom

TYLER EVERT/AP PHOTO

West Virginia's Elk River, where the spill occurred. Freedom Industries, the owner of the leaky tank, has declared bankruptcy—perhaps, some speculate, to avoid costly lawsuits.

TOUCH ATER!

Industries allowed to position its chemical storage so close to a water distribution center? And why hadn't the problem been addressed before the spill?

Laws concerning the use and storage of chemicals vary by state. In West Virginia, there are tough environmental regulations on underground chemical storage, but rules for aboveground tanks, like the one belonging to Freedom Industries, are less strict.

Little is known about the long-term effects of MCHM on the human body. But that's not unusual. Of the more than 84,000 chemicals registered in the U.S., the government has required testing of only 200. That's why many consider the **federal** law on chemical safety, which is 37 years old, to be dangerously outdated.

West Virginia has a long history of resisting government regulation of its businesses. The state depends on jobs provided by companies like Freedom Industries. Many West Virginia lawmakers and residents worry that too much regulation will drive businesses to other states, weakening the already struggling economy. "Coal and chemicals inevitably bring risk," West Virginia Senator Joe Manchin told the *New York Times*. "But that doesn't mean they should be shut down." Still, Senator Manchin is now pushing for a bill to increase regulation.

On January 13, the state began to lift the water ban, though many residents remained **wary**. More than a week later, West Virginians were outraged to learn that the spill had included a second chemical.

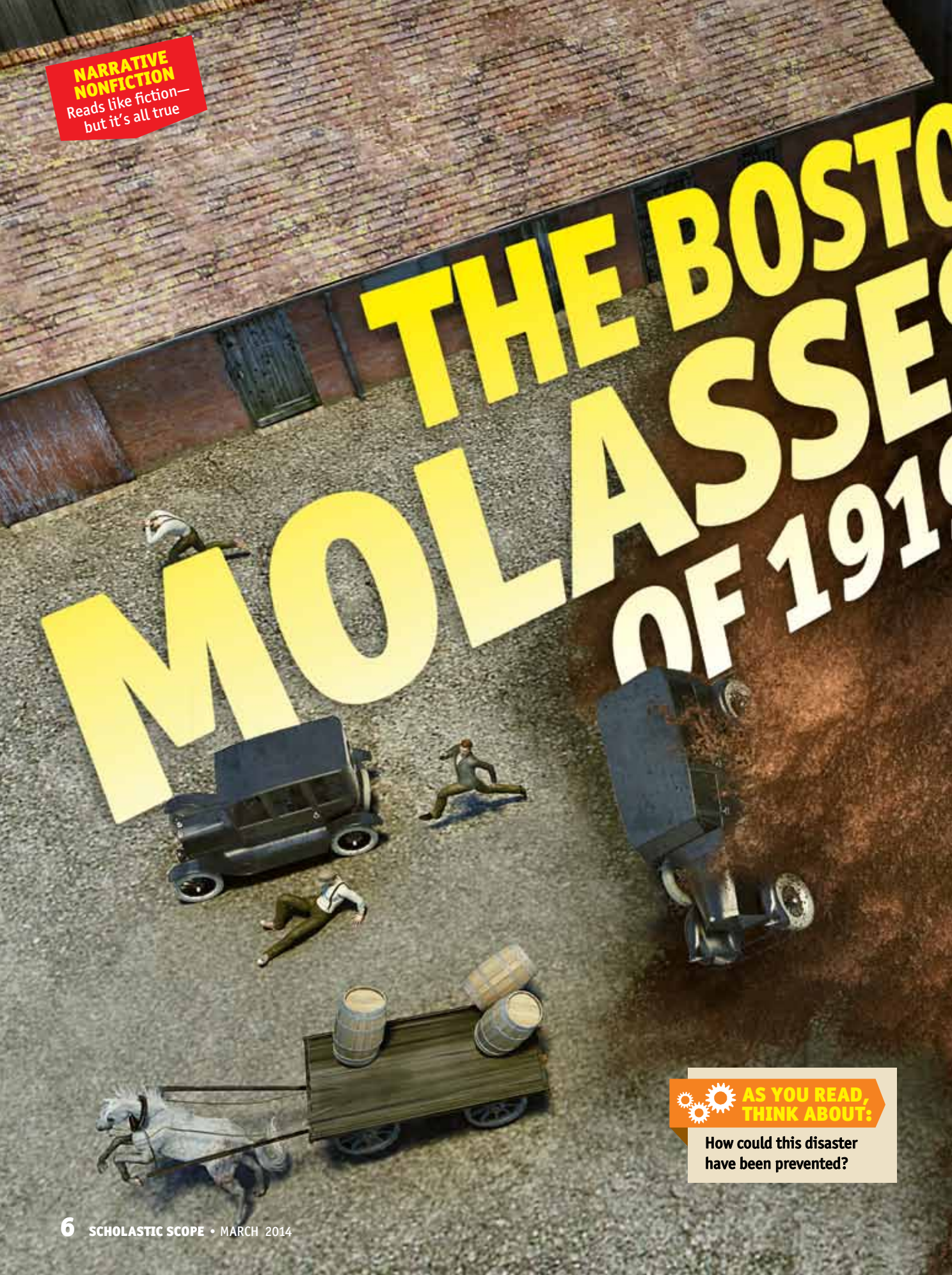
The incident was the third major chemical accident in this area in five years. At press time, investigations were ongoing. New details were expected to emerge. ●

This news story reminds us of a little-known historical disaster.

TURN THE PAGE TO READ ABOUT IT.

NARRATIVE NONFICTION
Reads like fiction—but it's all true

THE BOSTO MOLASSE OF 191



AS YOU READ, THINK ABOUT:

How could this disaster have been prevented?

ON S FLOOD 9

GARY HANNA

BY LAUREN TARSHIS

95 years ago, a strange and terrible disaster struck Boston: A killer wave of molasses crashed through a crowded neighborhood. The wave was 15 feet tall, traveling at 35 miles per hour. It destroyed everything in its path and killed 21 people. How did this happen? And who was to blame?

It was a bright January day in 1919, and young Anthony di Stasio hurried along a crowded sidewalk in Boston's North End. As usual, the streets were crowded with honking motorcars and clattering horse-drawn wagons. After weeks of freezing cold, the day was warm and sunny. Anthony's tattered wool coat flapped open as he hurried toward the tiny apartment where he lived with his parents and three sisters.

Like most of the people who lived in

this poor Boston neighborhood, Anthony's family had come from southern Italy, eager to start a new and better life in America.

What they found was hardship. Anthony's father worked long hours on the waterfront. Anthony's mother struggled to make their **dingy** two-room apartment into a decent home—to chase away the cockroaches and cover up the stink of garbage and horse manure that wafted up from the streets. Life was tough for the people of the North End, and the past two years had been especially challenging—not only for them, but for most Americans.

World War I had been raging in Europe. More than four million American soldiers had joined the brutal fight to defeat Germany. During the final months of the war, another horror hit the world: the influenza epidemic of 1918. Fifty million people died, including more than 600,000 Americans.

Now, though, the war and the epidemic were over. Anthony might even have sensed a mood of hopefulness on that bright January day. The residents of Boston's North End had every reason to believe that better times were just ahead.

But they were not.

Something terrible was about to strike Anthony's neighborhood. In fact, the deadly threat had been looming over the North End for years. It was not a German bomb or a deadly disease. It was a giant steel tank filled with molasses.

From Pies to Bombs

Molasses is a thick brown syrup that was once the most popular sweetener in America. Like white sugar, molasses comes from the sugarcane plant, which grows in the Caribbean and other hot and humid regions. Until the late 1800s, white sugar was so expensive that only rich people could afford it. Molasses was the cheap alternative. So despite the bitter taste, it was molasses that sweetened early America's tasty treats, like pumpkin pie and Indian pudding (a cornmeal-based dessert).

By the 1900s, sugar prices had dropped, and most Americans no longer needed to sweeten their foods with molasses. So the sticky brown syrup was put to a new and surprising use: making bombs. Heated up in a process called **distillation**, molasses can be turned into industrial alcohol. In this liquid form, molasses became a key ingredient in the explosives used in the war against Germany. Throughout World War I, ships loaded with millions of gallons of molasses arrived at Boston's ports. Trains would then take the gooey cargo to distilleries, where it was turned into industrial alcohol.

In 1914, the leaders of one molasses company, United States Industrial Alcohol (USIA), decided to build an enormous molasses

In the hours after the collapse of the molasses tank, rescuers waded through rivers of goo to reach the injured. Many were trapped under wrecked buildings. For months, Boston stank of molasses, and Boston Harbor was stained brown.

SHUTTERSTOCK (BLOBS); BOSTON GLOBE/GETTY IMAGES (NEWSPAPER)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The Boston Da

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MOLASSES TANK E

INJURES 50

SCENE OF RUIN AND DESOLATION IN NORTH END AFTER DESTI

OF PURITY DISTILLING COMPANY TANK AND NE

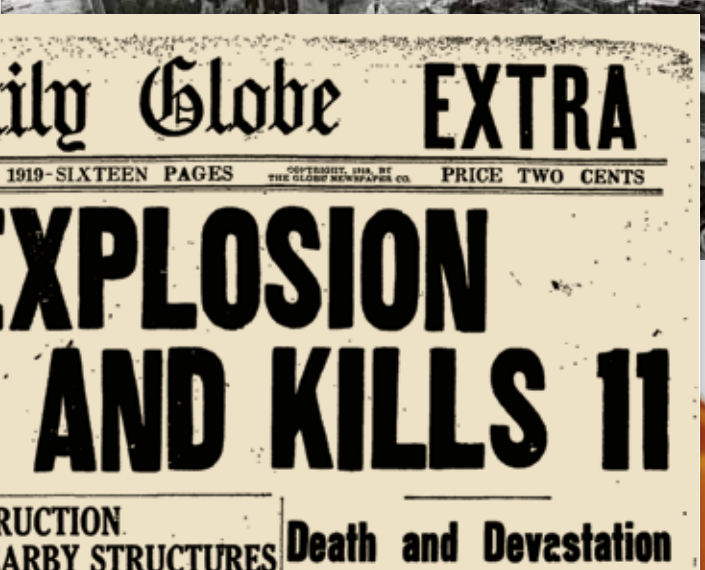
storage tank near Boston Harbor. The tank was constructed hastily, and it was huge—bigger than any tank ever built in Boston. As if the North End weren't already grim enough, now a five-story steel tank towered over the neighborhood, **blotting** out the sun and blocking the view of the harbor.

It wasn't only the tank's **unsightliness** that upset the residents of the North End, though. A few hours after the tank was filled with molasses for the first time, brown syrup began leaking from the seams, oozing like blood from invisible wounds. Every time the tank was refilled with molasses, it rumbled and groaned, as though the steel walls were crying out in pain. Some people living near the tank worried it was unsafe.

But what could they do about it? USIA was a big company, and the people of the North End were poor and powerless. In the early 20th century, many Americans viewed immigrants with suspicion and prejudice. Even a person bold enough to complain about the dangerous tank would have had a hard time finding someone willing to listen and help.

And so the years passed. The molasses kept leaking. And the noises of the straining steel grew louder . . . until the moment on that bright January day in 1919 when Anthony di Stasio was making his way home.

ASSOCIATED PRESS (BELOW)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Death and Devastation

Violent Swirl

The first sign of disaster was a strange sound:

Rat, tat, tat, tat,
Rat, tat, tat, tat,
Rat, tat, tat, tat.

It was the sound of thousands of steel **rivets** popping out of place. After years of strain, the molasses tank was breaking apart.

People froze. And then came a thundering explosion.

"Run!" a man screamed. "It's the tank!"

Anthony looked up just as the molasses tank cracked apart like a massive egg, unleashing 2.3 million gallons of thick, sticky molasses. The molasses formed a **colossal** brown wave—15 feet high, 160 feet wide, and traveling at a staggering 35 miles per hour. The syrup was far heavier and more destructive than a wave of ocean water, and it moved with incredible power and speed. Within seconds, it had crushed several wooden houses and flattened a three-story fire station. It swept away

motorcars and snapped electrical poles.

Anthony and dozens of others were quickly caught in the violent swirl. The wave pulled Anthony under. Molasses gushed into his mouth. He was carried for several blocks until he crashed into a metal lamppost—hard. The impact knocked him out. A firefighter, spotting Anthony pinned against the lamppost, rushed through waist-deep molasses and grabbed Anthony just before he could be swept away.

The firefighter held Anthony's limp body and looked at his molasses-coated face. The poor boy, the firefighter believed, had not survived.

By the time the wave lost its power, half a mile of the North End was flooded with molasses. Hundreds of firefighters, police officers, nurses, and sailors from docked ships rushed to the scene. They freed people trapped under collapsed buildings and tangled in molasses-soaked debris. Plain water did little to wash the thick, syrupy molasses away. Instead, firefighters used salt water to scour the hardening goo from the streets. In the end, 21 people were killed, and 150 were injured.

Molasses and sugar come from the same plant: sugarcane (top).

The Strangest Disaster

Within hours of the explosion, leaders of USIA were insisting that the disaster was not their fault. Their tank, they claimed, had been bombed by "criminals." But few believed this explanation.

In the following weeks, experts sifted through the wreckage, inspecting the remains of the tank. They spoke to residents who had seen the leaks and heard the strange noises.

The experts' conclusion: The tank had been **shoddily** built, and the leaders at USIA had known it.

Still, USIA refused to take responsibility, and at first it seemed the company would not be held responsible. But the victims persisted in their demand for justice. They filed a lawsuit, and the trial dragged on for years. Finally, USIA was forced to pay $1 million (equal to about $7 million today). For the poor immigrants of the North End, it was a big victory.

It took years for the North End to rebuild after the flood. Even today, on hot days, some claim that the sweet scent of molasses rises up, like a ghost. But somehow this disaster has been largely forgotten. Indeed, few have ever heard of the Molasses Flood of 1919 and the incredible stories from that day—like the story of Anthony di Stasio.

Anthony was taken to a large building used to store the bodies of those who had died in the flood. He was covered with a sheet.

But Anthony wasn't dead, only unconscious. Hours later, he woke to the sound of his mother's voice calling him. He tried to answer, but his mouth was filled with molasses.

Suddenly, he sat up. And soon his family surrounded him, a lucky survivor of one of the strangest disasters in American history. ●

WRITING CONTEST

Compare and contrast the disasters in Boston and West Virginia. How are they similar and different? What lessons can be learned from them? Respond in two to three paragraphs, using text evidence to support your answer. Send your response to MOLASSES CONTEST. Five winners will each receive *The Great Molasses Flood* by Deborah Kops.

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