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## 'Sins from the past'



### Industrial legacy leaves pollution in S. Tier

Tom Wilber | Ithaca Journal | USA TODAY NETWORK

In 1977, the Elmira School District paid one dollar for an abandoned industrial site on which to build a new high school. ■ Even at a buck, this was no bargain. ■ The property, brokered through the Southern Tier Economic Growth Agency, was polluted from more than a century of heavy industry. Yet another generation would pass with countless questions about health risks and exposure before officials took a closer look. ■ Recent testing at the school, on South Main Street, confirms problems ignored long ago remain a very real problem today.

The story of Elmira High School is similar to thousands of sites statewide, including shopping centers, residential neighborhoods and municipal water districts.

They all are still managing often invisible risks from chemical hazards from a bygone era.

More than 30 sites in Chemung, Broome and Tompkins counties represent public health or environmental threats, according to a Press & Sun-Bulletin/pressconnects.com review of the state's database of Superfund and brownfield sites.

More than two-thirds of those involve TCE, a toxic and carcinogenic industrial solvent used liberally through much of the 20th century as a cleaning agent and grease stripper for products ranging from printed circuit boards to railroad locomotives.

Whether due to errors in judgment, willful ignorance or sheer naivete, chemical hazards were disposed of in the pre-regulatory era by dumping or flushing. Little thought was given to chronic spills from leaking industrial systems and leach fields.

Today, the results are hitting home. Nearly 1,000 residences, businesses and public buildings in the Southern Tier have been fitted with systems to prevent vapor intrusion. More affected properties near the old and often forgotten industrial sites are being found every year.

In Elmira, contractors last summer removed more than 6,500 tons of soil tainted by PCBs and other chemical hazards from under the school's tennis courts and south parking lot. Contaminated soil under the east

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## Winter reminds area it's still here

Anthony Borrelli  
Ithaca Journal  
USA TODAY NETWORK

March roared into the Southern Tier like a lion Friday with a snow-storm that closed schools and businesses, caused widespread power outages, and rendered many roads treacherous.

A winter storm warning issued by the National Weather Service was scheduled to continue until 11 a.m. Saturday. Heavy, wet snow and gusty winds were the chief threats; they contributed to blowing snow conditions and downed trees or power lines.

Broome County Executive Jason Garnar declared a "state of emergency" Friday, until 6 a.m. Saturday. Residents were urged to use caution and only travel if necessary.

Travel bans were issued for the Towns of Deposit, Sanford, Windsor and Village of Deposit. Local and

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## How push to cut costs led to trail of death

Christina Jewett and Mark Alesia  
Kaiser Health News and Indianapolis Star  
USA TODAY NETWORK

The surgery went fine. Her doctors left for the day. Four hours later, Paulina Tam started gasping for air.

Internal bleeding was cutting off her windpipe, a well-known complication of the spine surgery she had undergone.

But a Medicare inspection report says nobody who remained on duty that evening at the Northern California surgery center knew what to do.

In desperation, a nurse did something that would not happen in a hospital.

She dialed 911.

By the time an ambulance delivered Tam to the emergency room, the

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TOP: The former Morse Industrial Corp., presently owned by Emerson Electric, in Ithaca. TCE contamination has spread into neighborhoods north and west of the factory. KATE COLLINS/STAFF PHOTO  
BOTTOM: Demolition of the polluted Remington Rand factory cleared the way for the Elmira High School in the late 1970s. FILE PHOTO

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# Pollution

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parking lot will be excavated and trucked to hazardous waste landfills this summer. The final phase of the cleanup, under the school track and playing field, is yet to be scheduled.

TCE fumes penetrating the school's foundation were detected in the building at the state safety threshold or slightly below before a special system was installed in 2014 to vent them from beneath the property. Today, indoor air tests are performed regularly to ensure the system is working.

"These are sins from the past," said Andy Patros, a longtime Elmira resident who was a teenager when plans for the high school were announced. "We were excited to have a brand new school, but we were just kids. So we didn't know."

What Patros didn't know, others suspected. Patros remembers the reaction of his future father-in-law who worked at the plant when it was Remington Rand, a business machine manufacturing empire: "They're going to build a school there? They're going to have to take out a lot of dirt."

That assessment turned out to be prophetic 40 years later.

The recent rush of work at the school represents "an abundance of caution" corresponding with capital improvements that could not be done without disturbing the pollution, district superintendent Hillary Austin said in a recent interview. "The building is safe for people to be in. I want people to know that."

Remington Rand's successor, Unisys, is responsible for the cleanup. Company spokesman Kevin Krueger declines to discuss costs, but said Unisys will abide by terms spelled out in a consent order negotiated with the state Department of Environmental Conservation in 2014. "We realize our liability and we are stepping up," Krueger said.

Polychlorinated Biphenyls (PCBs) and trichloroethylene (TCE) are common 20th century pollutants. Exposure to either can cause a range of ailments from nerve damage to cancer.

Company, school and health officials cite findings by state and federal agencies published in 2003 showing "no apparent public health hazard" at the Elmira school because people are not likely to come in contact with the buried chemical hazards.

While the conclusion of the study — prompted by concerns over cancer rates at Elmira — was a relief for the school community, its findings also left a nagging doubt. Overall, statistics showed no unusual patterns of cancers, with the exception of an unexplained spike in testicular cancer among students and recent graduates from 1997 to 2000.

Patros's son, Tom, was one of the testicular cancer cases. Although he was successfully treated, it was a harrowing ordeal.

"Who knows what caused it?" Patros, a former Chemung County legislator, recently reflected. "But this is the question that stays with us."

## 'It's personal'

A harbinger of bad news at the school and elsewhere turned up in 1990 when tests showed TCE pollution, eventually traced to a Westinghouse Electric Corp. manufacturing plant, had breached two public wells serving the Elmira water system.

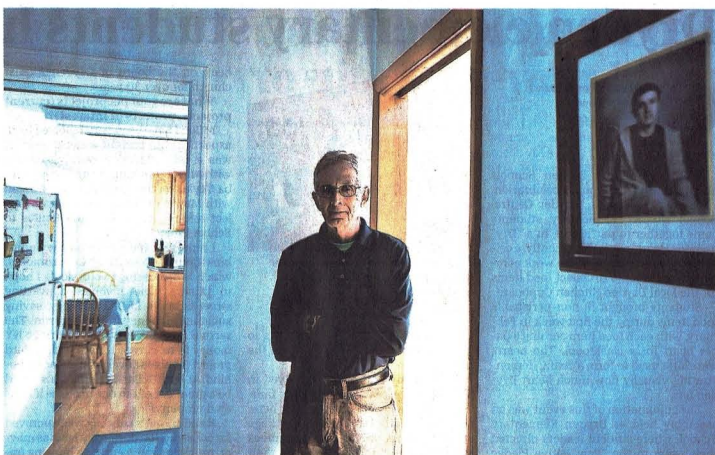
In 1994, a municipal drinking water well on Sullivan Street was fitted with an "air stripper," an aeration system that runs non-stop to purge TCE from the water. But the Kentucky Avenue well, which ended up being the Environmental Protection Agency's "national priorities list" of the most polluted sites in the country, still remains off line while the cleanup continues.

The scenario is sadly common throughout the Southern Tier's heavily industrialized river valleys.

In Broome County, cleanup of Vestal's drinking water Well 1-1 is also ongoing, after it, too, was added to the EPA's national priorities list and decommissioned in 1990. The most recent phase includes a \$14.5 million project to remove contaminated soil and thermally treat the ground at Stage Road, an industrial area near the town's rail trail. A review of the effectiveness of the cleanup is due this spring.

Two other Vestal wells and four other water systems — collectively serving about 10,000 residents in Broome County municipalities of Endicott, Johnson City, Kirkwood and Conklin also depend on air strippers to safeguard against TCE contamination.

While the impact of TCE on water supplies emerged in the late 1980s, it would take 30 more years before health officials would discover another hazard: TCE fumes from polluted soil and



Longtime Hillcrest resident Tom Tiffany was a driving force in the Hillcrest Environmental Action Team (HEAT), which worked with state officials to understand and clean TCE pollution in his neighborhood. Tiffany's advice to people discovering contamination near their own homes: "Get informed." KATE COLLINS / STAFF PHOTO



Sean Shumaker developed leukemia when he was 8 and died in 2012. His mother suspects TCE made him sick; they lived in Hillcrest. PROVIDED PHOTO

groundwater tables drifting into buildings, a danger known as "vapor intrusion."

More than 600 Broome County homes near the former IBM site in Endicott and CAE Electronics in Hillcrest were among the frontier of vapor intrusion discoveries in 2001.

IBM paid more than \$14 million to settle claims related to the pollution hazard, and more than \$70 million cleaning its former circuit board plant — now the Huron Campus — and nearby residential area.

Hundreds of millions in state, federal and private dollars are spent on others investigations statewide.

Today, the TCE legacy is better understood, although far from solved. Regulators continue to uncover new hazards as they realize the scope of vapor intrusion across the Southern Tier.

"It's changed the way we do things," said Martin Brand, deputy commissioner of the state's remediation program. "It wasn't a pathway we traditionally investigated. Now it's part of the process."

The process has changed. And so has the public's stake with pollution. What once was thought of as a threat to outdoor water, air and soil now is a threat to people's living rooms. "It's a little less abstract when people learn about vapor coming into their home," Brand said. "It's personal."

Addressing pollution that has worked its way onto private property has proven a difficult task. Funds are limited. Records are scarce. Sometimes investigators are welcomed. Other times, not.

"When we determine where we want to go in the community, our responsibility is to reach out to property owners," said Michael Basile, a public affairs officer with the federal Environmental Protection Agency. "Sometimes there is reluctance to give us access... You're from the government and you want to come onto my property and drill a hole in my cellar floor? No thank you."

The problem tends to be compounded in rental properties, where migrant populations are generally unaware of the issue and absentee landlords may be unmotivated to cooperate.

In coming weeks, 50 property owners south of a federal Superfund Site in Elmira Heights will get such letters from the EPA seeking access to properties. Extensive TCE contamination was found flowing from the former Purolator Products site, now owned by Motor Components LLC, after Purolator excavated and removed 461 buried drums in the spring of 1992, according to DEC records.

EPA technicians have already tested about 200 nearby buildings and installed venting systems in more than 40

of them.

Similar investigations continue in Tompkins County neighborhoods. The largest, in the South Hill portion of Ithaca, covers 100 acres with a vast industrial legacy beginning with Morse Industrial Corp. in 1906.

Hazards here, according to DEC records, began with machines without drip pans used to manufacture automotive components and power transmission equipment. In the mid-20th century, when Borg-Warner Corp. operated the plant, it was common practice to clean oil from the floors with solvents and flush the mess into the floor drains and leaky sewer pipes.

More than 60 homes north and west of the plant have been fitted with vapor mitigation systems, yet work to clean residual pollution from the path of the sewer line along East Spencer Street has been stalled due to easement issues with the city of Ithaca, according to the DEC file.

Less than two miles south, DEC officials continue efforts to pinpoint boundaries of a toxic plume from the former Ithaca Gun Factory. Systems have been installed to vent TCE fumes from under at least eight nearby residences.

In Broome County, officials are evaluating boundaries of a TCE plume near the Lowes parking lot in Vestal. Evidence to date suggests the plume is not affecting nearby buildings, according to Mike Ryan, assistant director of remediation for the DEC. But it could limit future development in that part of the major retail hub.

## Cancer threat

TCE is a pernicious pollutant — sinking into the water table, sticking to soil, resisting cleanup and producing fumes that move up through the ground and into buildings.

As industry leaders began to recognize how toxic the solvent was, TCE fell from widespread use in the late 20th century.

Yet it would take the federal government — facing strong resistance from the chemical lobby — until 2015 to officially recognize chronic exposure to even low doses of TCE raises risks of cancer and birth defects.

Quantifying the extent and impact of its legacy at any given waste site, however, remains a challenge. Although the state budgets \$100 million a year for cleanups of all polluted sites, there are no state or federal budget dollars dedicated exclusively to TCE pollution. Private companies under orders to clean legacy sites are not required to disclose expenses.

Nationally, the cost of addressing

TCE pollution is running into the "tens of billions," with no comprehensive list or method to prioritize or assess sites, according to Lenny Siegel, director of the Center for Public Environmental Oversight, a nonprofit organization that facilitates public participation in brownfield and Superfund cleanups.

Meanwhile, dramatic cuts proposed to federal programs would shift even more of the burden to states with limited budgets.

"What we've seen in many places is the threat of vapor intrusion is discovered and addressed only when redevelopment occurs," Siegel said.

However, the discovery of vapor intrusion came with fear of life in the Broome County communities of Endicott and Hillcrest.

## Lessons from the past

Parents in certain areas of Broome County near industrial sites became concerned when a seemingly disproportionate number of children were stricken with cancer in the 1990s.

Their fears were not imagined. Subsequent studies by the Department of Health and the Centers for Disease Control found unusual spikes in leukemia and other cancers among children in Hillcrest and the Town of Union, as well as heart defects among some children in the Town of Union.

Childhood cancer is a unique and urgent flag. Children are not likely to smoke or work in factories. In their short lives, they are less likely to have moved from place to place with different exposure risks. They are not expected to get cancer associated with aging, and their small bodies are more vulnerable to the ill effects of pollution.

Although falling short of identifying a causal relationship with pollution, statistical analysis by state and federal health officials suggested some 14 childhood cancer cases in the vicinity of polluted sites in Hillcrest and the Town of Union were not likely due to chance alone.

Regardless of the uncertainty about their cause, the cancers became a potent rallying point for communities and elected officials urging more aggressive action on solvent pollution that had long been taken for granted at CAE Electronics and Triple City Metal Finishing in Hillcrest, and at IBM in Endicott.

Tom Tiffany, a resident of Hillcrest, a community in the Town of Fenton, was on the front line of that fight.

"The biggest lesson? Get informed," Tiffany said recently. "Work together and find experts if necessary. If we don't learn from our past we are bound to repeat our mistakes."

News of multiple cases of sick and dying children in the community was both tragic and galvanizing.

Beth Shumaker, whose son Sean developed leukemia when he was 8, was at ground zero of the crises. She suspected TCE made Sean sick. But the Shumakers — Beth, her husband Andy, Sean and his two brothers, Stephen and Matt — didn't abandon their Hillcrest home.

"The sense of community was so strong," Beth recalled recently. "It was our home, and we loved it there."

Residents formed their own committee, the Hillcrest Environmental Action Team (HEAT), to study the highly technical factors at play, and to have a voice in the investigation and cleanup. It began with knowing what questions to ask.

# Pollution

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Shelves in the tiny neighborhood library were crowded with technical reports from the DEC, Department of Health and contractors testing the sources of pollution at CAE Link and Triple Cities Metal Finishing. To help decipher them, the group enlisted Bruce Oldfield, a science professor at nearby Broome Community College. They educated themselves about "risk factors," "statistical significance," "ground water gradients" and "sub-slab depressurization."

With stakes mounting, the DEC and state and federal health officials began regular meetings with HEAT to discuss testing schedules and cleanup plans.

Sean, who would become a public face of the toll of childhood cancer and the bravery of family and victims, was treated with grueling chemotherapy, and later radiation treatment. After suffering a relapse, he died in 2012, but not before attaining life goals of graduating from Chenango Valley High School and earning a degree at SUNY Broome.

Both and Andy recently sold their house in Hillcrest and moved to the country to pursue their own dream. Although Beth believes TCE is still a threat in her old community, she has no regrets.

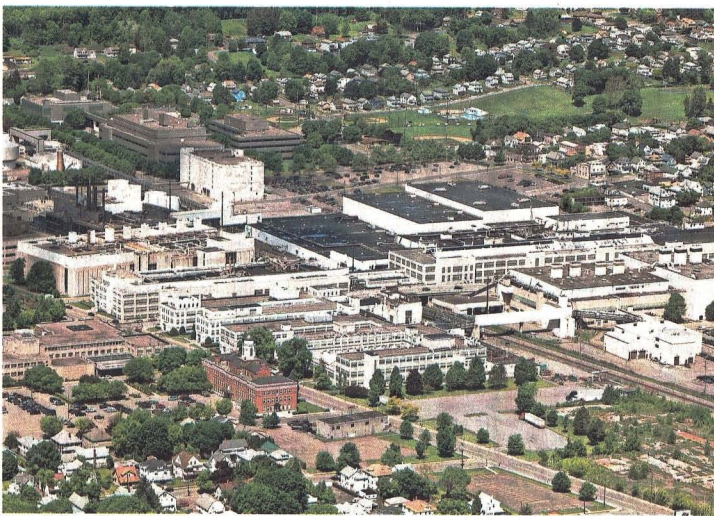
"Sean taught me that you have to live without fear and regret," she said.

Today, the Hillcrest cleanup has progressed. Every three or four months, a DEC vehicle pulls up and a technician collects a sample from a monitoring well in Tiffany's front yard, a sight that has become as innocuous as a meter man. Along the sidewalk, vents poke inconspicuously above pitched roofs and brick chimneys, releasing vapors sucked from below foundations by motors quieter than a whisper.

It will take years more before the TCE pollution is completely gone, but the sources have been eliminated and tests in dozens of monitoring wells along tree-lined sidewalks show residual levels in groundwater levels continue to fall as life goes on in the neighborhood.

## 'Wild West of dumping'

While sites like Hillcrest and Elmira High School have a relatively robust record of investigation, pollution and impacts to people living near or over an untyped number of undocumented sites remain mysteries.



TCE pollution, spanning 300 acres of Endicott, started under IBM's microelectronics campus, which is now owned by Huron Real Estate Associates. IBM has spent more than \$70 million on the cleanup. FILE PHOTO

"Many sites are not in the system, because the system has fallen apart," said Walter Hang, head of Toxics Targeting, an Ithaca business that compiles and sells environmental data to real estate stakeholders and governments looking to develop sites.

Hang, a prominent activist and strident DEC critic, recently walked along the banks of a creek that exposed a cross section of an old municipal dump in the city of Ithaca. Rusted drums, a crushed car and other industrial detritus hang from the bank and are visible from the west end of Wegmans parking lot, looking east across the stream.

Directly above the dirt-covered debris, rows of mobile homes, colorful and well-kept, line the streets of Nates Floral Estates.

In 2015 and 2016, state officials undertook "a limited investigation" to determine if vapors from the landfill were being released into the Estates, DEC spokesman Sean Mahar said in a recent email. Tests showed vapor concentrations "at levels that would not require mitigation."

More tests are scheduled to begin

this spring, Mahar added.

Hang, who characterized the investigations as "token and ineffective," believes officials have conveniently ignored the dump to allow development, including a Lowes built on the opposite side of the trailer park from Wegmans. He pointed to pipes venting gases from the landfill under the Lowes parking lot, which are absent in the trailer park.

"They'll just keep testing here and there, without really accomplishing anything," he said.

The trailer park community consists mostly of seniors. They enjoy potluck dinners at the community hall, and strolling over a foot bridge spanning the creek bed to the nearby Wegmans.

Esther Herkowitz, a 10-year resident of the park, likes the convenience, the affordability and the neighbors. Her concerns about the dump, however, began shortly after she moved in and encountered its unidentified contents a few inches below the soil when trying to plant her beloved rose bushes.

"I've been told 'don't plant vegetables,' she said. "Don't think that this soil is anything but problematic."

She later learned the dump was used by the City of Ithaca before modern environmental regulations. "This was like the wild west of dumping," she said. "Anybody could dump anything they wanted here, no questions asked. Now it's difficult to get anyone here to speak of it."

She doesn't dig there anymore. Trailer park owner Elline Weiner confirmed that residents are advised to plant in raised beds rather than dig in the soil. But she dismissed concerns that the area posed health risks. "They [the DEC] have tested here since 2000 and found nothing," she said.

In February, Herkowitz received a fact sheet in the mail notifying her of upcoming tests to determine whether the site is affecting groundwater, although the status of the dump and results of previous investigations are not listed on the state's registry of hazardous waste sites or potential sites.

Herkowitz is glad to see action, although she believes it's long overdue. "I think this never would have happened in a higher rent area," she added.