THE 'NIGHTMARE' OF BLUEBELL LANE

Published: February 10, 1985

THIS is the second winter of their discontent. It was January 1984 when a few North Babylon families first learned of possible benzene contamination of the air in their homes caused by a 100,000-gallon gasoline leak from a nearby Sunoco service station's underground tanks.

Now, as rumors swirl of a possible settlement with the Sun Company Inc. for a group of homeowners, about 60 families on Bluebell Lane and two neighboring streets mark the beginning of a second year of what many call the "nightmare of our lives."

One of the few families who have already individually settled with Sun has now revealed the specifics of its agreement, which includes a cash settlement of $175,000 for the cost of the family's housing. Another family will soon be receiving oil spill compensation money from New York State.

As Sun continued the cleanup of the gasoline spill, first discovered in May 1983, families who have remained on the block complain of nosebleeds, burning eyes, nausea and excessive fatigue, caused, they say, by exposure to benzene, carcinogen found in gasoline vapor. With the cold weather, benzene levels have risen in the homes, according to a New York State oil spill engineer, and some residents now talk of moving en masse temporarily into trailers.

If a settlement with Sun is announced soon, it may involve only 20 families living on or close to the plume of ground-water contamination - a line of demarcation that a resident, John Kosciusko, refers to as the "Maginot line."

But several families living outside that area, including the Kosciuskos, have had elevated benzene air sample levels in their homes, and the families say they will challenge any settlement based on the location of homes rather than on indoor air testing. Questions arise as to which homes are really contaminated and whether this settlement will end the troubles that plague the residents of Bluebell Lane.

Moreover, after spending more than $100,000 of state money, the official in charge of testing area homes for benzene, Larry Peterec, now questions whether the tests prove or disprove contamination.

"It didn't work out the way we hoped," said Mr. Peterec, regional oil spill engineer for the State Department of Transportation. "I'm not 100 percent sold that indoor monitoring delineates who has the problem and who doesn't. The monitoring is one big question mark."

But additional testing and monitoring of the neighborhood will begin in the next few weeks, according to the Babylon Town Supervisor, Anthony Noto. "The town," he said,

"has just signed a contract to spend $75,000 for testing of air samples in homes and the water in streams and lakes near the homes."

"We're responding to the people," Mr. Noto said. "We're going to do more testing than the state." He said that the State Department of Transportation "is a nice organization, but to me they build roads."

Mr. Noto said the town was also establishing a 24-hour toll-free hot line for residents of the area to call with complaints about benzene fumes, and last week he authorized town attorneys to file what he called a "health and welfare" lawsuit against Sun to recover the $240,000 lost to the town when it reduced the property taxes of 65 homes on Bluebell Lane and adjoining streets.

Robert Dietshe, a spokesman for Sun, said that more than 60 parties have filed lawsuits against the company. "It's logical to presume," he said, "that with the civil lawsuits, the North Babylon problem won't end if the settlement is reached."

But he added that any agreement reached "will not necessarily assign responsibility to Sun." He said, "We've been working on this problem since 1983, but we don't own that station and we didn't even deliver to that station."

With all the lawsuits, many predict it will be months, perhaps even years, before the "nightmare" of Bluebell Lane ends.

The McPecks, the Temperas, the LoCascios, the Kosciuskos, the Staars are all former neighbors in North Babylon, and all have handled the drastic upheaval in their lives in different ways.

For the McPecks, the scars are beginning to heal.

Michael and Katherine McPeck and their three children will be moving next week into the new home they have purchased in Stony Brook. Sun paid for their temporary relocation and recently settled with the family. Mr. McPeck said that Sun gave the family a total of $175,000 for its Bluebell Lane house and remuneration for buying a new house. The oil company has also agreed to establish special disability and health insurance policies for the McPeck children and to pay the family's legal fees.

Mr. McPeck thinks the settlement was fair. "I believe in justice, but not taking everybody for a ride," he said.

"I'm in the health care business, and I've seen too many excessive malpractice and negligence claims," said Mr. McPeck, who is director of respiratory therapy at the University Hospital in Stony Brook. "In all good conscience, I couldn't inflate the damages to make a quick fortune. I don't want to be greedy - it's not my personality."

Another family applied to New York State for financial help and has just learned that the state will compensate it for relocation costs.

Jeanne and James Tempera, with their 2-year-old son, Jason, were living with relatives but moved last weekend into a newly renovated home in Copiague. Their rent, moving costs and utility bills will be reimbursed by New York State's Environmental Protection and Spill Compensation Fund.

The Temperas are the first family on Bluebell Lane to have sought and been approved for oil spill compensation money. Only two other families in the state have received similar money from the fund.

For the majority of residents, however, there is no good news.

Rose and Mario LoCascio and their two children have been living in and out of their home on Bluebell Lane for the last year.

"We're like gypsies," Mrs. LoCascio said, in explaining how they frequently stay at friends' or relatives' houses. Their 17-year-old son has been living most of the time with a friend's family.

The LoCascios finally decided to move the entire family into a temporary trailer park being constructed by the Town of Babylon at a highway department sand and gravel storage site. At least nine other Bluebell Lane families are expected to join them.

Joyce and John Kosciusko, their two young sons and their dog have been living since May in a one-room attic in Mrs. Kosciusko's mother's house in Deer Park. They say that marital tensions caused by the lack of privacy have become so serious that they are going to have to move out, possibly into the trailer park.

Mrs. Kosciusko said she did not know how they would afford it (they continue to make mortgage payments on their Bluebell Lane house), but she added, "My mother needs her space, and we need our privacy."

And the Staars - Paul, Dorothy and their 6-year-old son, Paul Jr. - have been living since the summer in an industrial park. They live in the one room in which they work running a small ambulance business. They also talk of moving into the trailer park.

"We'll be creating a new town," Paul Staar said of the trailer park.

Mr. Staar, who is president of the North Babylon Civic Association, an organization composed solely of families who consider themselves victims of the gasoline leak, said the trailers were an emergency measure but the only answer for some families. He estimated that at least 10 families were waiting for the trailer sites to be made ready.

Residents were to move into the trailer park in mid-January, but Gordon Canary, assistant to Supervisor Noto, said that the weather had caused a delay in finishing the site.

Electricity and sewer facilities have been installed, but because of cold weather, water pipes are not in yet.

Mr. Canary expects the families to move in soon. He said that the town had spent about $20,000 on the site, and that even if the Bluebell Lane situation is resolved and the families do not move in or stay only a brief time, "there's nothing to say this won't happen again."

"An oil spill, pesticides, a natural disaster - it's nice to have this kind of emergency contingency," he said.

"I'm not very optimistic all this will be over soon," said Jeanne Tempera as she took boxes from a representative of her moving company. "This has taken a terrible toll on us."

Mr. and Mrs. Tempera, who have been living with relatives since the summer and paying them rent, applied for oil spill compensation fund money in September and were approved at the end of January.

According to Pamela Orzechowski, a spokesman for the State Comptroller's office, under whose jurisdiction the fund is administered, the Temperas will receive "roughly $1,000 a month for alternate living conditions, plus a moving allowance and probably the cost of utility bills until the house is judged livable by the Health Department." They should receive a payment for five or six months' reimbursment shortly, Miss Orzechowski said.

"If the Temperas were to reach an agreement with Sun Company Inc., that would end the liability of the fund," she added.

Miss Orzechowski said that only two other families in New York have received money from the fund for a similar problem - fumes from a gasoline spill. After a spill in 1978, two New Windsor families applied to the fund and their homes were ruled inhabitable. One family received $49,000 for relocation expenses, loss of value of real estate and contents lost, and the other family received $47,000 for the same expenses.

Revenue for the fund comes from license fees imposed on the facilities that store and ship petroleum and a 1-cent tax per barrel on petroleum transported through the state.

Other North Babylon families are expected to apply for fund money.

The expectation that an out-of- court settlement may be near between the Sun Company and the Suffolk County Health Department, the State Attorney General's office and other nonresidential parties has caused mixed emotions for Bluebell Lane residents and their lawyers.

"I want the settlement to take place," said Emanuel Witty, lawyer for 53 of the North Babylon families. Although Mr. Witty charged that "it was atrocious" that he was not allowed to sit in on the negotiations, he said: "I have no objection to them reaching an agreement to get the people out. I want the people out, and 20 is better than none."

But the majority of Mr. Witty's clients will not be part of the settlement, and he added, "It's not going to be over when they announce this agreement."

Mr. Witty has filed suits against Sun on behalf of his clients, seeking compensation for personal injuries and other costs.

Irving Like, a Babylon lawyer, represents three Bluebell Lane families, and other families are represented by still other lawyers.

The residents of Bluebell Lane have had their hopes rise and fall several times over the last year.

"There's such emotional strife," said Suffolk County Legislator Sondra Bachety of Babylon. Mrs. Bachety, the first public official to become involved in the gasoline leak controversy more than a year ago, said her office still gets calls daily from 15 to 20 residents of the area. "They really just need a place to call in," she said.

There have been tensions between families using different lawyers, but all keep in touch with Mrs. Bachety's office.

She too does not see a quick end to the residents' plight, and she said that in 15 years of holding public office, "this problem is the most frustrating, because it's a matter of health."

"It's inside their homes," she said, "they can't escape it at all. It's just a terrible situation. I know there are a lot of novenas being said for Bluebell Lane.

New York Times February 2, 1995

14 Million Pupils in Unsuitable or Unsafe Schools, Report Says

One third of the nation's 80,000 public schools are in such poor repair that the 14 million children who attend them are being housed in unsuitable or unsafe conditions, a report to Congress estimated today.

The conditions, the report said, will cost $112 billion to correct -- roughly four times the United States Education Department's total annual budget.

The study, by the General Accounting Office, said that state and local officials had for years used their limited maintenance and capital funds "for more immediately pressing needs." As a result, the study said, more than 25,000 schools report needing extensive repair or replacement of one or more buildings.

"As a result," it said, "public concern is growing that while laws require children to attend school, some school buildings may be unsafe or even harmful to children's health."

Among the conditions putting children at risk are asbestos, lead contamination, rotting roof beams, broken plumbing, bad lighting or ventilation systems and poor security systems. The report said that $65 billion was needed for extensive repairs or replacement

of at least one building; $36 billion to repair or replace the plumbing, roof or other features, and $11 billion to comply with Federal mandates, from removing asbestos or lead paint.

The study was undertaken in the aftermath of two crises: in 1993 the opening of New York City's schools was delayed as workers contained exposed asbestos and last fall the opening of Washington's schools was delayed as the city corrected 2,000 fire code violations.

More than 10,000 schools in 5,000 districts were surveyed last April to December in a report made at the request of Senator Carol Moseley-Braun, Democrat of Illinois. She sponsored legislation last year authorizing $100 million for school building repairs.

The schools in New York City were said to be by far the neediest of those in any major urban district in the nation, requiring $7.8 billion to be returned to good condition. The city's current five-year budget for new school buildings and extensive renovations is $2.8 billion, less than half what the school administration had requested.

The study said that Chicago needed $2.9 billion in renovations. Washington and New Orleans each required a half a billion dollars, the report said.

While the report termed the condition of New York City schools "generally bad," it noted that a few examples are "models for 21st century learning."

This contrast is exemplified, the report stated, by the "best" school the investigators visited (Stuyvesant High School at 345 Chambers Street in Manhattan, which opened in 1992). The report described the school, which is for academically gifted children, as a "state-of-the-art science high school." A few blocks away was an example of the "worst," in which the elevators do not work and there is "little ventilation and no air-conditioning."

The report, which did not give the name of any specific school, also noted that maintenance and repair of New York's school buildings "have been largely neglected" since the fiscal crisis in the 1970's.

Other conditions cited by the report were a New Orleans elementary school where termites ate books on library shelves and the shelves themselves, and another in Montgomery, Ala., where a ceiling weakened by leaking water collapsed 40 minutes after the children had gone for the day.

The report tied student performance to conditions in the school. "Some education reformers say it is unfair to hold students to nationwide standards if they do not have an equal opportunity to learn," it said. "Wide disparities in the physical condition of school facilities may contribute to such inequalities."

The Education Department has not assessed the condition of the nation's school facilities in three decades, according to the report.

Senator Moseley-Braun said that the $100 million in her Education Infrastructure Act was not available until July 1 and that it was being threatened by the new Republican majority in Congress.

"Needless to say, I am vehemently opposed to any proposal that would force Congress to take this giant leap backward," she said in a statement. "We are courting disaster if we fail to recognize that these capital needs relate directly to the health and safety of our children."

Nick Penning, director of legislation for the American Association of School Administrators, said that 31 percent of the nation's schools were built before World War II and that 43 percent were built in the 1950's and 1960's.

The New York Times October 7, 1997

School in Harlem Is Shut Indefinitely Because of Fumes

A Harlem elementary school that opened last month in a building that once housed a dry-cleaning operation was shut down suddenly and indefinitely at midday yesterday, after tests revealed the presence of potentially hazardous fumes at levels exceeding state guidelines.

The 500 students, in kindergarten through fourth grade, were reassigned to more than a dozen other schools in the district, all of them already overcrowded.

The opening of Public School 141 had already been delayed a year because of concerns that vapors from a chemical solvent used in the dry-cleaning operation remained at dangerous levels on the site. But by August, after a substantial cleanup and renovation, school officials decided to open the building, despite the objections of some parents and consumer advocates, who warned that more extensive testing was needed.

Subsequent air-quality tests conducted after school opened in September showed levels of the solvent, perchloroethylene, that exceeded the state guidelines. Laboratory studies on animals have shown that the chemical can harm the liver, kidneys and nervous system, and possibly cause cancer.

Although the most recent tests of the site were conducted on Sept. 13, the Board of Education did not share the results with parents until yesterday, only hours before the building was shut down. Though it was not clear yesterday when the building would reopen, if ever, city health officials said they did not believe the levels of the chemical had been high enough to pose a risk to the teachers and students during the four weeks they occupied the school.

Nonetheless, the sudden closing of the school left parents bewildered, frightened and angry, and raised questions about why the Board of Education had considered the site fit for a school in the first place.

Neither Schools Chancellor Rudy Crew nor Mayor Rudolph W. Giuliani responded to requests for comment on the situation yesterday.

But parents had plenty to say. Maria Stanley, the mother of a 4-year-old kindergartner at the school, emerged from a parents' meeting with the district superintendent yesterday morning choking back tears.

"I am so nervous right now, worried about my child," she said, after the Superintendent, Anthony Amato, announced he was shutting the school until further notice. "I don't care what the results are, my child is not going back to that school."

Betty Davis, a counselor at the City Department of Health, said she had learned of the school's closing not from school administrators but from television news reports.

"The first thing I am going to do," she said, gripping the hand of her 7-year-old daughter, Arielle, outside the school, "is get her to a doctor."

The board leased the three-story gray concrete building, on Fifth Avenue at 141st Street, in the fall of 1995, when severe overcrowding drove the board to pay high rents for properties that they had spent little time investigating.

The board agreed in October 1995 to spend $4.5 million over 15 years to lease the property, and an additional $5 million to convert it to a school. But officials did not conduct environmental tests on the property until the following spring, when the board first learned of the presence of the dry-cleaning chemicals, said Karen Crowe, a board spokeswoman.

Ms. Crowe said that the board had not required such tests at the time the lease was signed but, in 1996, began mandating environmental tests on all leased properties as part of an overhaul of the leasing division.

At that time, air-quality tests performed by a consultant retained by the landlord showed levels of perchloroethylene that were, in some instances, nearly five times the state guideline of 15 parts per billion. Examination of the building showed that the chemicals had leaked through the concrete floor deep into the soil below -- in some places to a depth of nearly 20 feet.

Though the dry-cleaning machines had been positioned at the back of the sprawling building, and the school was to be located in the front, there was evidence that the chemicals had seeped to the front of the building during the two decades that the laundry was on the site.

Board of Education officials immediately put off the fall 1996 opening of the school and ordered the landlord, Alexander Karten, to excavate the site and to install an underground system to dissipate the vapors, Ms. Crowe said.

In June and July, with that system in place, the owner's consultant and the School Construction Authority tested the air in selected rooms and found all of the levels of the chemical at or below the state guideline. Based on those tests, the State Department of Health, on Aug. 19, cleared the school for opening, provided further tests were conducted from September to January.

But the decision to open the school triggered a sharp protest from parents, as well as from Mark Green, the Public Advocate, and Consumers Union, the organization that publishes Consumer Reports magazine and has been studying the hazards of dry-cleaning chemicals.

In a letter to Dr. Crew dated Aug. 28, Barbara Warren, a toxicologist for Consumers Union, urged him to delay the opening of the school so that additional tests could be performed. In a letter to Dr. Crew on Sept. 2, two days before the school opening, Mr. Green echoed those concerns, saying that the tests conducted had been limited and had been undertaken with the school's windows open. Further tests, he argued, should be conducted under a range of conditions, especially with the windows closed and the heat on, when the chemical tends to build up inside.

The following day, Dr. Crew wrote to Mr. Green that he had rejected his suggestion, saying that the test results so far -- and the blessing of the State Department of Health -- justified the opening of the school. "Let me assure you," Dr. Crew wrote, "that we share your concern for the health and safety of the children."

On Sept. 13, more than a week after school began, the landlord's consultant and the School Construction Authority tested the air in the school again. Yesterday morning, at a meeting convened by Mr. Amato, the parents learned the results: in all but one of the six rooms tested by the consultant, the levels of the chemical had risen since the summer. And three of those rooms were above the state guideline, at levels of 16.1 parts per billion, 16.8 and 19.

Additional tests by the School Construction Authority at the same time found the levels of the chemical in one room at more than double the guideline, at 36.

School officials said they learned the results last Tuesday, but were unable to inform parents until yesterday because of the Jewish holidays. Mr. Amato said he had "no plans" to reopen the school, though that decision ultimately rests with the Board of Education.

By 1 P.M. yesterday, the children were boarding buses to take them to neighborhood elementary schools throughout Inwood and Washington Heights -- the same schools they had left to alleviate extensive overcrowding.

The evacuation from P.S. 141 has presented its own logistical problems. At P.S. 153, for example, more than 140 students from P.S. 141 and their teachers will be forced to traipse through the building like nomads, occupying a succession of classrooms as they become temporarily vacant.

Last night, after a second, two-hour meeting with parents, Mr. Amato said he was hopeful that he could find one building as temporary quarters for the school, perhaps by next week.

"If I knew what I know now," he said, "I would not have used this building, and I would not have had parents go through this."

The New York Times October 8, 1997

As Parents Scramble, Questions Swirl Over a Closed School

As parents and teachers struggled yesterday over what to do with 500 children suddenly in need of classroom space, officials tried to sort through the circumstances that led to the opening and abrupt closing of a Harlem elementary school in a building that once housed a dry-cleaning operation.

The Public Advocate, Mark Green, called for an investigation into discrepancies in air-quality tests at the building, Public School 141, which was ordered closed on Monday because of concerns over fumes from a potentially toxic dry-cleaning solvent. While tests over the summer by the landlord and School Construction Authority showed safe levels, other tests, conducted in September by the same groups, detected levels above state guidelines, prompting the school's closing.

On both occasions, the landlord's results were substantially lower than those of the construction authority, and Mr. Green raised the question of whether there were improprieties involved in the testing. A law enforcement official, who insisted on anonymity, said the Manhattan District Attorney was also investigating the tests.

As the Board of Education struggled to explain why the building had been identified as an appropriate site for a school in the first place, district administrators dispersed the students to 15 schools in Inwood and Washington Heights, all of them already overcrowded. In search of creative ways to handle the influx, some schools imported spare desks from classrooms as far away as the Bronx, while others held makeshift classes in art rooms, auditoriums and teachers' lounges.

Although the temporary solutions rankled some parents who pulled their children out of classes entirely, the district superintendent, Anthony Amato, said last night that a better solution might be at hand. He said the superintendent of the adjoining Harlem district had offered the use of space in an underused intermediate school that could house all 500 of the children. Mr. Amato said he and Schools Chancellor Rudy Crew intended to tour the school today.

Why such a plan had not been made in advance, given that the school's opening had already been delayed a year by similar concerns about chemicals, was one of many unanswered questions yesterday.

Those questions included what role, if any, a former employee in the board's leasing division had played in arranging the $4.5 million, 15-year lease of the former dry-cleaning operation. The former employee, Robert Shahid, whose job was to examine potential leasing sites, had left the Board of Education in May 1994 and later served as a paid consultant to several landlords who had done business with the board, including Alexander Karten, the owner of the building on Fifth Avenue and 141st Street that was converted into P.S. 141.

Board of Education officials could not say yesterday whether the property had come to the attention of the board while Mr. Shahid was employed in the leasing division.

Mr. Shahid did not return telephone calls to his home yesterday or the day before. In a telephone interview Monday night, Mr. Karten said he had briefly employed Mr. Shahid as a consultant on the project, but only after October 1995, when the lease was signed.

The closing of the school was prompted by the most recent batch of tests -- conducted separately on Sept. 13 by the landlord and the construction authority -- which detected chemical fumes that exceeded state guidelines. Tests in July by consultants to both groups had shown levels of the chemical, perchloroethylene, that were at or below the state guidelines. But in both the September and July tests, the landlord's results were substantially lower.

Schools Chancellor Rudy Crew had relied on the July results -- as well as those conducted by the City Department of Environmental Protection in August, which showed the lowest levels of all -- in deciding to open the elementary school to 500 children last month. The school's opening had been delayed a year while the landlord cleaned up the site. Last year his own consultants tested it at the Board of Education's behest and determined that the chemical had seeped into the building's concrete floor and into the soil below, to a depth of 20 feet.

The chemical, known familiarly as perc, has been identified by scientists as a possible carcinogen that has been shown to be toxic to the liver, kidneys and nervous systems of animals in laboratory tests. The State Health Department guideline for acceptable levels of perc in indoor air is no higher than 15 parts per billion.

Tests in July by the landlord's consultant showed levels of 3.4 in one room and 9.6 in the cafeteria, as compared with levels of 5.7 and 15 recorded in the same rooms by the School Construction Authority. Both rooms were considered safe by the Department of Health.

But on Sept. 13, in tests that were reported to parents only hours before the school was closed on Monday, the landlord detected levels of 16.1 in one room, while the School

Construction Authority found the level in the same room to be more than double that, at 36.

Based on those results, the district superintendent ordered the school closed, pending further tests.

Andrew Rudko, a vice president of AKRF Incorporated, the company that conducted the tests for the landlord, said last night that none of the results had been altered. He said that the differences in the two sets of results were not surprising given the nature of the tests, which involve opening a canister for eight hours in a room before sealing it and sending the air to a laboratory to be analyzed.

"The precision," he said of the tests, "is just not that great."

While the authorities pored over the test results, the parents' concerns were more basic yesterday.

One P.S. 141 parent, Nancy Bobe, took her child out of the district altogether and sent her to P.S. 48, a school on the Upper West Side of Manhattan that is a half an hour train-ride away from her home.

"It's far, but I'm looking at the positive side," said Ms. Bobe, a law student with a 5-year-old girl in kindergarten. "It's a good school and I won't have to ever deal again with the fact that there is no space for my child."

Librada Mercado, on the other hand, was simply glad that her granddaughters, newly arrived from the Dominican Republic, had a school to go to after all, no matter how crowded it was. The girls, 6 and 7, had been reassigned to P.S. 153.

"I feel somewhat bad," she said, "but actually this school is closer than the one they were going to and they are learning English."

Brian Morrow, the district's deputy superintendent, said administrators at all the schools in the district were coping well. "Every unused and suitable place is being used," Mr. Morrow said.

"It's been hard for everybody," he added. "But let me put it this way, nobody called and said they couldn't do it."

For the second day in a row, Chancellor Crew declined public comment on the matter. Reached at a reception last night, Dr. Crew said he was still too distraught over the sudden death of a Brooklyn boy in his eighth-grade classroom earlier yesterday to discuss the situation at P.S. 141.

The New York Times October 10, 1997

Closed School Was Studied as State Superfund Site

As city school officials prepared this summer to open a Harlem elementary school for 500 students in a former dry-cleaning plant, state environmental officials were examining whether the building should be added to a state registry of inactive hazardous waste disposal sites, known as Superfund sites.

While there are no general legal restrictions on people living or working in Superfund sites -- and some remain inhabited even as toxic chemicals are removed -- state officials said they were unaware of any other school buildings in the state designated as Superfund sites.

And the fact that officials were considering placing the building on the list has once again raised questions about why the site was ever chosen for Public School 141, which was closed Monday after high levels of potentially hazardous fumes were detected. The closing has angered parents and sent school officials scrambling to find other places for the students in an already overcrowded system.

Yesterday, Schools Chancellor Rudy Crew announced that for the foreseeable future, he would split the school's students between two other schools -- Intermediate School 136 in Harlem and P.S. 149 near Morningside Heights. Neither building is within the students' district, No. 6, which covers Washington Heights and Inwood.

The problems surrounding the old building, however, lingered.

Officials with the State Department of Environmental Conservation said yesterday that they had informed the city's School Construction Authority on Aug. 15, two weeks before the school was to open, that tests to measure levels of a toxic solvent in the soil beneath the building had been botched and had to be repeated. Those tests, rather than the air tests, would determine whether the school would be added to the list of Superfund sites, joining more than 500 other toxic sites around the state that must be cleaned.

Preliminary tests showed that during the two decades the laundry operated on the site, the solvent perchloroethylene had apparently leaked through the concrete floor into the soil below -- in some cases to a depth of nearly 20 feet. Laboratory studies on animals have shown that perchloroethylene, commonly known as perc, can harm the kidneys, liver and nervous system, and can possibly cause cancer.

Though the dry-cleaning machines had been at the back of the sprawling building, away from where classrooms were built, the solvent had spread beneath the entire building, said Gary Sheffer, a spokesman for the state environmental department.

The contamination persisted despite a $5 million renovation, paid for by the Board of Education and overseen by Joseph Karten, the son of the building's landlord, Alexander Karten. State environmental officials said the level of contamination of the soil, and also

of concrete flooring and insulation beneath the building, was significant because it generated the vapors that could pose the health threat.

School officials yesterday defended their decision to begin classes for 500 students on Sept. 4 with the question of soil contamination lingering. They said they had been assured by both the city and state health departments that solvent vapors did not exist at levels high enough to pose a threat to children or teachers.

On Aug. 19, the State Department of Health wrote a letter to the School Construction Authority, informing it that air tests determined that "current conditions do not pose a concern for exposure or associated health effects for the proposed use of the building as a public school."

But the school was closed after the landlord's consultant and the School Construction Authority tested the air again. In all but one of the six rooms tested, the levels of the chemical had risen since the summer. The level in three rooms was above the state guideline and in one room it was more than double the guideline.

Mr. Sheffer said soil tests performed over the summer by a consultant hired by the building's owner showed more than the state's allowable limit -- 1.4 parts per million -- of the solvent.

While the tests left little question that the levels exceeded the limits, the company that performed them, AKRF of Manhattan, sent a letter to state environmental officials on Aug. 7 saying they felt they had performed the tests incorrectly and could not determine the exact contamination level.

The results of the new tests, which will determine whether the building should be placed on the Superfund site, are due in late November.

The Los Angeles Times August 28, 1998

Safety of New School Sites Is Questioned

Panel says state agency's procedure for ensuring that campuses, including 9 in L.A. district, are free of hazards is inadequate.

A state audit committee assailed the California Department of Education on Thursday for approving the purchase of at least nine Los Angeles school sites despite suspicions that the soil on the properties was polluted by industrial chemicals.

The Joint Legislative Audit Committee called for the department to reexamine all its approvals of school sites where contamination was originally suspected, and to modify internal procedures to ensure that local school districts build schools only on clean land.

The committee detailed its concerns in a report released late Thursday. About half the sites named are in South Los Angeles and include the recently inaugurated Jefferson Middle School, where administrators had to delay opening for a year because of concerns about underground contamination.

"The fact that toxic sites are currently approved by the state for school construction illustrates a serious flaw in the way site approval is currently being conducted," the 37-page report states.

A state education official defended the department's oversight of school land purchases, saying that investigators conduct exhaustive reviews of school district plans and require that polluted land be cleaned up before issuing final approvals.

"I find this really offensive that staffers to this committee have made these allegations that are not substantiated," said Deputy Supt. Susie Lange. "I think these are cheap shots at the Department of Education."

Local school districts are responsible for ensuring that properties are safe. But when state funds are involved, districts must also get approval from the Education Department. Consultants from the department's school facilities planning division review the district plans to ensure that toxic contamination and other hazards are addressed.

The audit committee contends that the department lacks internal controls that would ensure proper oversight. For example, school district administrators are required to sign a form declaring new school sites free of trouble. But the committee said the forms it examined were not signed.

The panel also contends that state officials fail to follow up on conditions they impose when local school officials propose buying former industrial sites.

The chairman of the audit committee, Assemblyman Scott Wildman (D-Los Angeles), said the report raises troubling questions.

"The state [Education] Department doesn't have the procedures in place to verify that information from local districts is accurate," he said. "Though we appear to have checks and balances, in actuality they don't exist."

Wildman cited Jefferson Middle School as a prime example of the system breaking down.

The Los Angeles Unified School District bought the land for that campus in the early 1990s and cleaned up the site, once home to a gas station and furniture factories.

In 1996, after a state inspector revealed that the campus was across the street from a former chrome-plating plant, state environmental officials notified the district of possible chromium contamination seeping underground toward the school.

Subsequent tests of the water table showed high levels of hexavalent chromium and the solvent trichloroethylene.

The state approved the original land purchase even though the school district had not completed its soil testing. L.A. Unified administrators said they were unable to gain access to the property because it was still privately owned at the time. State officials said they approved the site on the condition that the district not finalize the purchase until it completed the sampling and cleanup required by state law, which mandates that schools be built on safe sites.

District officials said that they did in fact clean up the soil contamination and that the school was then built and opened to use recently. "Everything we were required to do at the Jefferson site passed muster," said Lange of the Education Department.

District officials said they were unaware of the pollution across the street when they bought the Jefferson property. They did not learn of that problem until the state uncovered it in 1996.

Officials say the Jefferson site is safe for students because the remaining contamination is 150 feet below the surface.

Four of the nine sites cited in the committee report are in South Los Angeles. The list also includes Belmont High near downtown, a new site for South Gate High and an elementary school next door.

The Philadelphia Inquirer June 27, 1999

GOING HOME TO A HEARTACHE BUT GETTING ONLY A BRIEF VISIT PEOPLE HAVE PUT THEIR LIVES ON HOLD WAITING TO MOVE BACK. / THEY WERE EVACUATED FOLLOWING A JULY GAS SPILL IN WHITPAIN.

Until about two weeks ago, Seth Grant went home every night.

But only for a few minutes. The sickly sweet smell of gasoline fumes thick in the air of his four-bedroom colonial home on Grouse Court have made it uninhabitable. So, after a quick survey of the place, Grant returns to his family at a rented townhouse a few miles away.

The lives of Seth and Ellen Grant were turned upside down July 1, when their house was flooded with toluene and xylene fumes that seeped through the floors and walls. The toxins were part of a 12,500-gallon underground gasoline spill at the Blue Bell Gulf station two-tenths of a mile from their home.

"It's like the twilight zone," Seth Grant said as he stood recently, arms folded, in the hallway of the three-bedroom, dimly lit Wick Lane townhouse. "Every day, it seems like I'm living another person's life."

When the fumes were discovered last year, Whitpain Township fire officials told the Grants and their children, Brandon, 6, and Jessica, 3, to pack clothes for three days.

Three days turned into weeks, then months. Now, it has been almost a year since the Grants moved into the temporary housing for which the state has paid.

The family has tried to cope with the sudden change and the sense of permanent transience.

Ellen Grant, 34, has taped her children's artwork to the plain, white walls of the cramped townhouse. Damp laundry hangs in her bedroom. A year's worth of bills are stuffed into a navy Samsonite suitcase - her portable filing cabinet.

"It's just like putting your life on hold," she said, standing in the parking lot of the townhouse complex and watching her children play on a patch of dry grass. "There's no sense of permanence."

Neither the Grants nor Celeste Behr, who also was evacuated from her home, know when - or if - they will be able to return to life as they once knew it.

Behr relocated to Florida. To date, the relocation bill for the Grants and Behr is $49,538, with $16,221 in invoices still under review, said Peter Trosini, a spokesman for the state Department of Environmental Protection.

The department makes monthly checks of the air quality at the vacant homes but cannot say when the Grants or Behr will be able to go back.

The homes probably are safe to inhabit, Trosini said, "but we've made a commitment to the families that we'll wait until it's absolutely safe. The DEP has final say."

Since the leak was discovered in May 1998, nearly 3,500 gallons of fuel have been recovered by the environmental department. Blue Bell Gulf, which is owned by Thomas Wagner, is open for business, although it has been shut down and reopened by the department three times since the accident. Neither Wagner nor his attorney, John Mattioni, returned calls.

The spill has been described by state environmental officials as the largest in the state's southeastern region during 1998. The $1 million Underground Storage Tank Indemnification Fund, created in 1989 to assist tank owners in complying with federal regulations when tanks leak, expired earlier this year. The environmental department now pays for the cleanup through a $5 million emergency fund.

In December, the Grants and Behr sued Wagner and Bayard Pump and Tank Co. of Bristol Township, the company that installed the gasoline tanks and lines at the station.

A Norristown lawyer, Seth Grant, 38, recalled counseling a shackled client who faced a steep sentence. During their conversation about his case, Grant said, the inmate stopped short.

"He just looked at me and said: 'Hey, sorry to hear about your house,' " Grant said. "He told me he had been keeping up with the stories in the papers from prison."

It was one of many surreal moments Grant said he had experienced since he and his family were forced from their dream home. During his visits to Grouse Lane, he watches the sag deepen in the fence, and he chitchats with his old neighbors, who watch the place for him. Dust gathers on the furniture inside, he said, and the tree swing where Brandon played is motionless. Two weeks ago, Grant began to limit his visits to once a week and changed the family's mailing address to the townhouse.He returns to the rented, furnished townhouse, where the same pastel print hangs on three walls. These are close quarters, and the Grants have transformed the dining room into a makeshift playroom, now strewn with toys. Sometimes, the throbbing bass of the stereo next door creeps through the walls.

"Every month, I still make a $1,300 mortgage payment on a house I'll probably never live in again and never be able to sell," Seth Grant said. "I feel like I'm throwing that money out the window."

The Grants both work full time. Ellen is an accountant. Like many couples, they saved to buy their first house - for nearly five years. When they asked their insurance company about the damage, they were told the coverage they had on the house did not cover the effects of the gasoline spill. They continue to pay the monthly insurance bill on the home.

"What happened to us should frighten anyone in this state who lives near a gas station," said Seth Grant. "They [the station owner] were hoping this spill was going to disappear into the center of the earth, and that was naive."

The New York Times July 28, 1999

A $200 Million School That May Never Open

LOS ANGELES, July 24— It looms on a lonely lot at the edge of downtown, a hulking pile of buff brick and brown stone, like some half-finished temple or pharaoh's tomb. It would be the most expensive public high school ever built in the United States, at a cost of more than $200 million, but the Belmont Learning Center may never be finished -- and if it is, no one may want to go to school there.

The school was built atop an abandoned oilfield, despite repeated warnings, and officials now say there may be no way to vent away seeping methane gas and other hazards to make it safe to occupy. This week the Los Angeles Board of Education, with four newly elected members, voted to create a commission to recommend whether to abandon the

project after $125 million has already been spent on it, or spend millions more to make it work.

The Belmont story is a classic Los Angeles tale of sunny civic boosterism and shadowy real estate speculation and of the ever-present environmental hazards in a city that a century ago was a sparsely populated outpost dotted with oil wells and bean fields and is now a giant metropolis built astride constantly shifting earthquake faults. As the drama has dragged on, the problem that Belmont was meant to address -- severely overcrowded schools in the city's downtown neighborhoods -- remains unabated.

"It's not going to go away," said State Senator Tom Hayden of Los Angeles, one of the Belmont project's most persistent critics, noting the no-win situation. "If they abandon it, it's going to be the subject of screenplays and East Coast merriment for years. And if they open it, they're going to face endless litigation by parents who think it's going to one day be the site of a methane fire or explosion."

The effort began more than a decade ago with a plan to build a downtown high school on the site of the old Ambassador Hotel, the once-grand hostelry where Senator Robert F. Kennedy of New York was assassinated in June 1968.

The school district condemned the property, but its owner, the New York developer Donald J. Trump, who wanted to build a skyscraper there, threatened a legal challenge over the price. In the real estate recession of the early 1990's, the Board of Education dropped that site in favor of one of the last remaining open parcels near downtown, a former oilfield at First Street and Beaudry Avenue.

From the beginning, the plan envisioned what school officials said would be the most expensive high school in the country, a 5,300-student complex comprising eight "academies," plus a housing and retail development to be built in a partnership with a private developer, Kajima Urban Development. But the retail and housing elements have since been dropped, in part because retail tenants were not interested in the somewhat isolated site, a gritty hillside sandwiched in an L made by the intersection of two freeways.

As early as 1993, officials of the state Division of Oil and Gas warned Los Angeles school officials about the dangers of building over an abandoned oilfield, but the school district and the developer forged ahead, taking soil samples that district officials and outside critics now say were clearly inadequate.

The Board of Education's outside legal counsel, David Cartwright of the city's leading law firm, O'Melveny & Myers, helped negotiate with the developer, Kajima, and assured the board that it was safe to go forward without a full environmental study, although it was later disclosed that his firm also represented the developer, a subsidiary of a giant Japanese construction company.

Mr. Cartwright has defended his actions as proper, but last winter the school board relieved him of duties on the Belmont project. He continues as counsel on other issues.

Construction began two years ago, with two dissenting votes on the seven-member school board. But before the groundbreaking, Assemblyman Scott Wildman, who represents the nearby communities of Glendale and Burbank and heads the Joint Legislative Audit Committee, with oversight of public entities like school districts, had begun raising questions about the contracting and safety issues for the project, and he urged the district to hold off.

Since then, Mr. Wildman has made public nine critical reports on the project, and environmental consultants hired by the district itself have shown dangerous concentrations of methane as well as hydrogen sulfide, a toxic gas that can cause neurological damage.

Some of the district's own experts have even suggested that the entire ground floor of the building be off-limits to children, to protect them from any buildup of dangerous gases. Even if a system could be devised to vent the gases, the reports have suggested, it would cost perhaps $100,000 a year to operate for the life of the school, while an earthquake fault running under the property could leave the mechanical systems subject to sudden failure.

"I think the project should be abandoned and torn down," Mr. Wildman said in a recent interview. "There shouldn't be children who go there and there shouldn't be people who work there. They made a mistake. We tried to stop them before they started, but they went ahead anyway. Frankly, they should have made the decision two years ago."

But several local officials, including Mayor Richard J. Riordan, had supported the project, and it was not until last fall, when the state Department of Toxic Substance Control concluded that the site had never been adequately assessed, that momentum grew for re-evaluation. After commissioning new tests, the district suspended most construction in February. Alternatives would be expensive, including building several smaller high schools in the area, at a cost of perhaps $75 million each.

A new, four-member majority was elected to the school board this spring on a promise to take a hard look at the Belmont project, and they had been expected to call a permanent halt. Instead, after a daylong closed session and a spirited public hearing on Tuesday, the board voted to "secure the site" by installing doors, windows and roofing to protect it from the elements, but postponed a definitive decision, opting instead to appoint a citizens' commission to make recommendations by mid-October. The board members also voted to impose a gag order on themselves and the district staff, barring any further comment on the project in the meantime.

"One of the problems with this project is there hasn't been a great deal of planning ahead," said a new board member, Caprice Young.

Despite the environmental debate, several parents testified at the hearing in support of finishing the school, saying the neighborhood badly needed it.

"Our concerns are not being heard and we are more overcrowded than ever," said Tina Hough, a 35-year resident of the neighborhood who was bused to far-flung neighborhoods to go to school. "Am I to put my children through the same thing I went through?"

Dominic Shambra, the former school official, now retired, who oversaw the Belmont project as the district's director of planning and development, also testified. He dismissed the environmental concerns as "unsubstantiated allegations," and told board members, "You are now surrounded by an environmental hysteria created by the district's own consultants."

Mr. Shambra said the problems could be remedied and that conclusions that the site is beyond repair are exaggerated.

But Mr. Wildman said it was too late to make the project work.

"It's just one thing after another," he said. "We keep finding more problems. Bureaucrats need to have permission to cut their losses and stop throwing good money after bad.'

The New York Times January 26, 2000

Los Angeles Board to Abandon School Built Atop Toxic Oilfield

LOS ANGELES, Jan. 25— Faced with intractable environmental problems and spiraling costs to treat them, school officials here voted today to abandon their $170 million effort to build a high school in one of this city's most densely populated neighborhoods. Built atop a toxic oil field, the school would have been the most expensive high school in the United States.

Despite vociferous appeals form the community and even some board members, the Los Angeles Board of Education voted 5 to 2 today to stop the project, called the Belmont Learning Complex. The vote was an endorsement of a recommendation made by new top school officials last week who concluded that the project would require $55 million more to finish and require unknown cleanup costs. Rather, officials and board members said that money would be better spent on a rapid effort to find other space for the 3,000 students in the neighborhood who are now bused to other areas for school.

But if the district's decision was expected to bring some finality to a project that has divided the city for years, it has also raised new questions about what school officials will do to accommodate the crowding. Many in the audience tonight questioned whether the district would be able to find a feasible alternative quickly.

The school system, with about 700,000 students, is facing a raft of troubling issues, including finding places to build new schools, improving low test scores, curtailing social

promotion and switching instruction primarily to English under a new state law though 70 percent of the students are Hispanic. But no school issue has figured as prominently over the past year as Belmont. It played a role in the election of reform-minded board members backed by Mayor Richard J. Riordan, and was a major factor in the forced resignation of the former superintendent, Ruben Zacarias..

The Philadelphia Inquirer APRIL 12, 2000

HEARINGS TO DECIDE FATE OF GAS STATION THAT LEAKED IN '98 THE WHITPAIN STATION LEAKED NEARLY 15,000 GALLONS OF GAS, CAUSING AN EXPLOSION. THE OWNER SEEKS TO AVOID LIABILITY.

Environmental hearings began yesterday to determine whether a Gulf station owner will be held liable for a 12,000- to 15,000-gallon underground gasoline leak in 1998 that permanently displaced two Whitpain families and has exceeded $1 million in cleanup costs.

The state Environmental Hearing Board could permanently shut down the still-operating station on Skippack Pike in Blue Bell. The hearing, at the Department of Environmental Protection's Southeast Regional Office in Conshohocken, was prompted by station owner Thomas Wagner's appeal of a 1999 shutdown order.

Wagner's Blue Bell Gulf has been shuttered three times for failure to comply with DEP regulations and failure to assume any costs in cleaning up the spill, which DEP characterized as one of 1998's largest in Southeastern Pennsylvania.

Now, "the issue is whether Mr. Wagner will stay open," said his attorney, Scott Schwarz.

Agency officials who investigated the spill testified before Administrative Law Judge George Miller that although Wagner upgraded his storage tank system in 1995, before that it was not properly performing leak-detection duties because of the configuration of the tanks and gas lines.

"The system at the station . . . did not comply with regulations," said Kathy Nagle, a water-quality specialist supervisor with the DEP.

Super unleaded gasoline had apparently begun leaking from the station in March 1998, when the station lost about 4,000 gallons, Nagle said. An additional 7,500 gallons had been lost by a May 8, 1998, explosion caused by gasoline vapors in a well pump house at Weichert Realty across the street.

"I would have thought [the losses] would have raised some concerns," whether financial or environmental, in Wagner's mind, Nagle said.

When questioned by Stan Sneath, assistant counsel for the DEP, and attorney Seth Grant - whose family still cannot return to its Blue Bell home - agency officials testified that Wagner told them soon after the explosion that he believed the leak constituted only one or two gallons.

When math errors found in the station's inventory records were corrected by the DEP, Nagle testified, it was discovered that Wagner had exceeded a roughly 1,300-gallon gasoline-leakage allowance for July 1998.

Nagle acknowledged that initially DEP investigators "did not consider it to be a significant matter."

Since the first spill in March 1998, 14 residential wells have been contaminated and the cleanup has exhausted the $1 million state-administered Underground Storage Tank Indemnification Fund that acts as insurance for gas-station leaks. Cleanup costs are now eating into a $5 million emergency fund set up in February 1998 to cover such extraordinary circumstances. The largest contributors to the emergency fund are storage-tank owners, fleet-vehicle companies and municipalities.

Further testimony is expected today from Whitpain Township officials. The hearing is expected to conclude this week.

The Denver Post September 7, 2000

Homes to be tested for vapors Firm to provide kits in Adams

ADAMS COUNTY - A local aerospace company will test the basements of 67 homes in the Perl-Mack neighborhood for chemical vapors from a decade-old underground spill.

The U.S. Environmental Protection Agency recently asked Hamilton Sundstrand to conduct the tests in homes closest to its plant at 2480 W. 70th Ave. for the substance dichloroethene. The tests are only precautionary, said Diana Hammer, a public affairs specialist with the EPA.

'Based on our (calculations), we don't expect any problems,' Hammer said. 'But we'd like to be sure, and the company agreed.'

The problem is not news to residents, who have been dealing with the contamination and resulting lawsuits for 12 years.

Larry Rasmusen joined a successful lawsuit against the company several years ago. But the experience soured him and his wife, and they haven't decided whether to permit the test.

'Supposedly they've cleaned up the groundwater, and (my wife) didn't want to deal (with it) again,' he said. Rasmusen is not sure he agrees.

'I wouldn't mind knowing if someone's killing me,' he said.

Several other residents do plan to get their basements tested, although none reported unusual illnesses or appeared to be upset by the development.

'I kind of thought, 'Oh no, now what?" said Marty Rome. 'But at least they're trying.'

The tests, which involve placing a small canister in a home's basement for 24 hours, won't begin until October, Hammer said. The agency and the company also will hold a community information meeting Sept. 19 at the plant.

The EPA would be concerned if tests showed airborne concentrations of dichloroethene, or DCE, greater than 12 parts per billion.

Scott Moyer, senior project manager for Hamilton Sundstrand, said the company's tests will record DCE levels as low as 0.12 parts per billion, 10 times the EPA standard.

If elevated levels of dichloroethene are discovered in a basement, the company will immediately install a ventilation system similar to those used to exhaust radon, Moyer said.

Exposure to high levels of DCE can damage the liver, kidneys and central nervous system. The EPA lists DCE as a possible cause of cancer in humans.

Moyer said the company discovered in 1987 that two of the 18 underground tanks that stored used oils had leaked sometime after their installation in 1955. Periodically, the tanks were degreased with solvents that are presumed to be the source of the dichloroethene in the groundwater.

The company never actually used dichloroethene, he said. Rather, the chemical formed as solvents broke down in the environment.

In 1988, tests revealed that a plume of contaminated groundwater containing DCE and other chemicals flowed away from the site and across a 134-acre swath of open space toward a housing development.

Four nearby homes using well water were promptly switched to a municipal supply.

Moyer said it's impossible to determine how much contaminated oil leaked from the tanks, but an array of 88 monitoring wells placed along the plume shows declining levels of contaminants. Some of the wells now test clean, he said.

In 1992, under the oversight of the state Health Department, a 24-hour filtration system began pumping out groundwater and treating it. Two years later, solvents were detected in water seeping from a nearby gravel mine. A second water treatment system was installed.

In late 1998, as concern about two other DCE sites in Denver made the news, the state began negotiating a consent order with Hamilton Sundstrand. In 1999, the state transferred authority for the site and six others to the EPA.

Hammer said further tests, including soil investigations, will also be conducted.

The Denver Post November 26, 2000

Pollution fears seep into lives of residents TCE taint is airborne near Lowry

For nearly three years, Livia Richard has lived with gas-dispersing fans in her courtyard.

The fans, housed in white cylinders, were installed in her apartment building and three others in East Montclair by the U.S. Air Force. They're designed to blow away trichloroethylene vapors emanating from groundwater that spread from the defunct Lowry Air Force Base.

'They put these fans in three years ago, and there's supposed to be no danger right now,' said Richard, who lives in the Heritage Estates apartment complex. 'But if I start getting constant headaches 10 years from now, I'm going to want to know why we didn't get a better warning.'

TCE, which the air base used for years to clean airplane engines, is also found in dry-cleaning solvents and furniture stripper. It is capable of causing ailments ranging from headaches and dizziness to liver and kidney disorders.

So far, scientists say the jury is still out on whether TCE causes cancer in humans as some researchers suspect. Researchers have not studied family health histories in areas in Denver to assess any possible health effects.

But in March, a yearlong study was begun in a key area to try to predict the long-term health effects of indoor vapors from TCE and the chemicals it breaks down into. So far, low readings have been recorded in that area of about 15 homes, immediately west of Heritage Estates, that lie over the highest concentrations of groundwater TCE.

Until recently, scientists weren't aware that vapors from underground contaminants could rise up from the soil and get into the air, according to state health officials.

Colorado and Massachusetts were the first states to recognize that the potentially dangerous vapors could travel that way, they say.

TCE's presence in groundwater can be risky because people breathe the vapors rising from the ground, scientists say. It has not penetrated the drinking water.

Although health officials see no immediate risks from the TCE contamination, they do want to know more about long-term effects.

Richard and other residents also don't want to find out TCE's effects the hard way, years from now.

Gertrude Wolfgang, who lives in the study area, says she and her neighbors are 'mighty worried,' harboring fears that many of them have cancers that haven't been detected yet.

'It's frightening because you don't see it and you can't smell it,' said Wolfgang, an 11-year resident. 'I'm concerned about it, and I definitely wouldn't want people with children living here. What can be done if the ground is polluted?'

TCE in liquid form was used by the Air Force to degrease plane engines in the 1950s and '60s and allowed to simply seep into the ground, according to the Colorado Department of Public Health and Environment. Although the base generated other contaminants, TCE was the main chemical released by the base into the earth.

Over the years, liquid TCE spread northwest from the air base through water channels beneath East Montclair.

From there, over more than 30 years, a liquid plume spread nearly a mile and a half north and west to East 19th Avenue near Quebec Street, where the old Stapleton Airport - like Lowry - is being redeveloped with new homes.

Liquid TCE is confined to the groundwater, at depths ranging from 5 to 40 feet below the surface. Pumps installed by the base are cleaning the groundwater, cutting the concentrations of TCE, according to Floyd Nichols, Lowry remedial project manager for the Environmental Protection Agency.

He said the concentration of TCE drops the farther the liquid spreads from the base.

But TCE vapor, which is nonflammable, colorless and has a somewhat sweet odor, has been shown to rise from the liquid through the ground and into the air in basements in Heritage Estates and the study area north of it.

Concentrations of TCE in the groundwater under the affected areas are 200 to 300 parts per billion, about 40 times the state's acceptable levels.

Nothing near that level of concentration is evaporating into people's homes, said Jeff Edson, manager of the Colorado health department's remediation and restoration unit. Edson's unit oversees cleanup of all Department of Defense sites in the state.

In the area undergoing the yearlong study, state health department workers have left watermelon-shaped canisters inside crawl spaces, basements and the first floors of 15 homes, collecting air samples. The canisters are picked up after 24 hours.

Paul Chenault, who has lived in his home at East 12th Avenue and Unita Street for 18 years, said he wanted to be in the study because he wanted to find out more about the situation.

He'd heard so many rumors, even fears that he couldn't grow vegetables in his backyard because the soil was dangerous.

He's not worried anymore. 'I have the test results from the early part of the study, and each reading has been below any dangerous levels of the chemical,' he said.

Joe Nickerson, a six-year Heritage Estates resident, doesn't think TCE in the groundwater or as a basement gas poses any more danger than the asbestos that still lingers in older buildings.

'If the Air Force and the Lowry redevelopment group didn't tell us about the TCE, we wouldn't know it was there,' he said. 'But they did tell us and put in the fans, and I figure - because they were straight with us - they're not hiding anything.'

New residents of Heritage Estates' low-cost rental housing are required to sign a form asserting they know about the TCE under the property, said Lisa Stearns, the business manager, who owns a home a block away.

'I'd say concern about TCE within the complex is moderate. We haven't had anybody move out as a result of it,' she said.

Dale Jarnagin, a participant in the yearlong study, thought the TCE might affect the property value of his tidy duplex and the $ 80,000 investment he made in repairs. But his worries were eased when his home was recently appraised at $ 250,000.

'I'm a happy camper until there's proof that there is a definitive health problem or until I get a negative property evaluation because of it,' he said. 'That hasn't happened.'

While the TCE contamination doesn't rank with the Shattuck radioactive-waste site in south Denver as a dramatic risk, some neighbors do fear it could be a ticking toxic time bomb.

Homeowners have filed lawsuits against the Air Force, which has accepted responsibility for the cleanup.

On Oct. 26, Denver attorney Kevin Hannon filed a class-action suit against the Air Force on behalf of resident Robert Horton and roughly 1,000 other residents.

The suit, filed in U.S. District Court, seeks damages for lowered property values, for cleanup costs and for discomfort and health problems that may arise in the future. A jury will determine whether it could go forward as a class-action suit, according to Hannon.

No dollar amount is specified in the suit, whose plaintiffs live in an area from East 11th Avenue to Montview Boulevard, and from Spruce to Wabash streets.

October's suit followed a lawsuit filed a year and a half ago against the Air Force by area resident Robert Hoery, who owns a water well. The suit was initially dismissed, and Hannon has refiled it.

Both suits are being handled by Hannon, an environmental attorney with a national reputation.

Hannon was a key attorney in one of the biggest environmental settlements in Colorado. After a nine-year legal battle, a jury awarded $ 28 million in 1993 to remove a century's worth of arsenic, cadmium and other substances generated from the American Smelting and Refining Co. smelter from Denver's Globeville, Swansea and Elyria neighborhoods.

Hannon also did 18 months of research, as a science adviser, in the Woburn, Mass., class-action suit involving TCE that became the basis for the book and movie 'A Civil Action.'

In that case, TCE had gotten into the water supply and was linked to leukemia deaths.

Hannon declined to comment on the specifics of either Denver lawsuit, saying he and his clients 'don't want to be perceived as trying to influence their outcomes.'

Plans are under way to clean up the Lowry base. The Air Force and the Lowry Redevelopment Authority, which is overseeing a $ 2.5 billion residential and commercial redevelopment of the base, recently discussed criteria for picking a private contractor to handle the cleanup. The selection process could take a year.

The bill for cleaning up the base, which already has seen $ 665 million in new development, could exceed $ 90 million. The effort would clean up TCE and other contaminants in the soil and water.

Federal agencies won't release some parts of the land at Lowry for development until the cleanup is complete, according to Jennifer Moulton, director of the Denver Department of Planning and Neighborhood Development.

At the former Stapleton Airport, which is also being redeveloped, the TCE is 35 to 40 feet deep, according to Tom Gleason, spokesman for Forest City Stapleton Inc., the private developer overseeing the building.

He said it won't have any effect on the redevelopment, which will include homes and commercial areas.

Military bases from California to Massachusetts are coping with years of contamination by TCE and other substances. Some have been declared Superfund sites, although Lowry is not one of them.

Meanwhile, red flags are going up on the effect of groundwater contaminants on indoor air, according to Sheila Gaston, the Lowry project manager for the Colorado health department.

She said Colorado and Massachusetts were the first states to evaluate the effect, particularly of chlorinated industrial solvents like TCE. Colorado's dry soil allows contaminants to move more quickly through the soil and in higher concentrations, she said.

'Just a year or two ago, we'd get conference calls from other states saying that it could never happen,' she said. 'But Colorado has the data to show that it does.'

The Denver metro area has seen other examples of chemical air and groundwater contamination. Dichloroethene-11 is being cleaned up at the Colorado Department of Transportation headquarters near Glendale. The concentrations were so high that the Transportation Department offered to move more than a dozen area residents from their apartments in the 1990s.

Health officials are also overseeing cleanup of trichloroethane-111 from the Redfield Rifle Scope Co. in southeast Denver.

The Hew York Times December 27, 2000

Specter of Cancer Haunts a School; Industrial City of Elmira Confronts Environmental Legacy

ELMIRA, N.Y.— Years ago they drew little notice, the pond that never freezes, the rainbow of colors glinting off the surface of a creek, the hard-to-pronounce chemicals sprayed, painted and, yes, sometimes spilled around the mile-long stretch of factories on the south side of town.

This small Southern Tier city, which promotes itself as the gateway to the Finger Lakes and the place where Mark Twain wrote classics like "The Adventures of Huckleberry Finn," owes much of its existence to the less glamorous might of industry, which in the

last century turned out cars, tools, typewriters, warplane components, fire hydrants and much more.

But as Elmira strives to rebound from years of hard times after the decline of manufacturing, residents have begun to question the legacy of all those factories as never before.

They are especially concerned by suggestions that a number of cancer cases reported by former and current students of a high school here are linked to the school, which was built on land that has supported a diverse array of industry from the Civil War to the 1970's.

The State Health and Environmental Conservation Departments have conducted tests at Southside High School and a neighboring property that is the site of an abandoned plant.

The State Department of Health has received reports of 53 cancer cases among the 7,500 current and former students since the school opened in 1979. It confirmed 25 cases of reportable cancer, meaning those other than the most common, easily treated skin cancers, and determined that the illness was diagnosed in 22 people while attending or after graduating from the school.

The most prevalent forms were leukemia and lymphoma, but the state determined that with the exception of one form of cancer, testicular, the number of cases was not statistically unusual.

The state found fewer than six cases of testicular cancer -- patient privacy rules forbid the department to specify the number when there are more than one and fewer than six cases -- in the last three years and is reviewing the medical records of those young men to assess any common threads.

The State Department of Health, after testing the air and ground, declared the school safe, though its conclusions have been disputed by some parents and by officials who suggest that the state investigation was hasty and not comprehensive.

The state is checking the medical records of the current and former students who have testicular cancer to assess whether there is a pattern of risk factors for the disease, though it is one of the least understood cancers and a link to environmental pollution has not been confirmed.

Testicular cancer accounts for only 1 percent of all cancers in men, according to the National Cancer Institute, but it is the most common form of cancer in men between the ages of 15 and 35.

The school district is also sending out a survey to all former students in an effort to check whether the 53 reported cases, compiled from school and state cancer registry records

largely limited to New York State, are the only cases out there. Independent experts hired by the city and school district are also evaluating the state's findings.

Elmira is one of about three dozen communities nationwide that are questioning whether building schools on or near former industrial sites, usually because of cheap, readily available land, is causing ill effects among children, according to the Center for Health, Environment and Justice, a Virginia-based advocacy group founded by Lois Marie Gibbs, who led the calls for federal officials to clean up 20,000 tons of toxic waste that was buried beneath her neighborhood in Love Canal.

As in those communities, the cancer scare here has frayed nerves in town, not only at the notion that children's health may be in danger, but also because some people say the issue is being blown out of proportion. State officials have told residents that such cancer cluster investigations seldom make a direct link between past environmental contamination and illnesses because of the gaps in knowledge about chemicals and because risk factors for cancers include genetics, nutrition and lifestyle.

But parents of the stricken students, while acknowledging it may never be proven that the illness was caused by contamination, remain steadfast in exploring the possibility.

"We are just looking for some type of answer and to see if there is a reason to be worried about any kids in the future," said Andy Patros, whose son, Tom, 21, is one of the former students with testicular cancer.

Mr. Patros used to joke about the "pond that never freezes," a retaining pool next to the school that on a subfreezing morning in December was indeed largely unfrozen. (State officials are exploring the possibility that it does not completely freeze because it is fed by an underground spring.)

Mr. Patros and his wife, Julie, a nurse at a private hospital, were among a group of parents and officials from the neighborhood around the school who sent a letter to the school district in April outlining their concerns about a spate of cancer cases they had heard about from friends and neighbors. This followed the cleanup of the adjacent property, where about 2,000 cubic yards of contaminated soil was removed in 1999 by the new owner of a site where American LaFrance fire trucks were once made.

Former employees have come forward with tales of cavalier handling of dangerous chemicals and common dumping and burying of waste on the property and in nearby creeks and ponds.

Bob Schneider, 79, who worked at Remington Rand, which made typewriters and other office machines, recalled handling both powerful chemicals and metals. His father, who also worked at the factory and who died in 1979 of prostate cancer, "used to get nasty jobs, all this toxic stuff to clean out."

"They would give him time off after he did it, cleaning out all these vats," Mr. Schneider said. "I don't know what it was, but it would make you sick if you smelled it. Smelled like rotten onions or something. They would strip steel with it."

Mr. Schneider, like many others in town, never thought to question the substances they were handling. In the boom times during and just after World Wars I and II, the dozens of manufacturers played a major role not just in the city's economy but in its social fabric as well, sponsoring basketball leagues and charity functions, said J. Arthur Kieffer, the county historian and a former construction worker at the factories.

"We never thought about things like that, contamination or cancer, when people were working in the factories," said Mr. Kieffer, 79. "I am not going to say that's right or wrong, but there were thousands of people working in them factories, and if we are going to say things about the school, the environment caused cancer, then it would seem to me they would have to check the former workers, too."

So far, nobody has proposed that, and the focus has remained on the school and on the children.

The school property, owned by Remington Rand from 1937 through 1972, was acquired by the school district, hungry for cheap land to build a new school, for $1 from the county redevelopment agency. Craig Slater, a lawyer hired by the city to advise it on the state investigations, said records were scarce on whether the property was cleaned up before construction began, but he noted that environmental regulations and awareness of the toxicity of chemicals were not nearly as strong then as they are now.

Jay Grossman, a spokesman for Unisys, which through a series of mergers absorbed Remington Rand, said the company had been monitoring the investigations but did not plan to take any action on its former property because the state had not determined that it posed any health risk.

Just before the school year began, the board closed the school's athletic fields as a precautionary measure after state scientists found elevated levels of dangerous compounds in the soil, but not in quantities, they said, that would pose a health risk.

The contaminants included arsenic, barium, nickel and mercury. PCB's, a known carcinogen, were found in a creek next to the school. Investigators with the Department of Environmental Conservation said the toxic substances on the school site were found well below the surface and were unlikely to cause health problems unless someone dug deep and ingested sizable portions of soil.

Since then, pressure has increased to open the fields in time for spring sports. (The board has opened a practice field a few miles away.)

"All this contamination they are talking about on the south side, they are blowing way out of proportion," said Bill Smith, who worked in a nearby foundry and, even though his

sweat was sometimes yellow at the time, says he is still going strong at 77. "I feel sorry for the kids that got cancer, but I'm not so sure it's from the school."

But others in the community contend that state officials have not looked hard enough and say they believe that any health risks go beyond the school.

"You just constantly hear about people getting cancer or dying from it," said Debbie Brimmer, whose children live with their father in the neighborhood near the school. Ms. Brimmer, who grew up in the area, said she once admired the "pretty greens and blues and reds" on the surface of creeks near the school that state officials now say are contaminated with oil and PCB's.

At this point, the focus remains largely on the school, where officials expect their consultants to complete their review of the state testing by Jan. 15.

Nobody expects the questions to end there. Indeed, some say they believe an element of mystery will always pervade, given the gaps in knowledge about pollutants and their health effects.

"As long as they say we tested everything and everything is fine beyond a reasonable doubt, that would be O.K.," said Michael Tobin, 16, a junior at the school who has been treated for cancer. "But I don't expect that any time soon."

The Denver Post December 31, 2000

Snafu lets toxins run amok Denver factory disclosed leaks into neighborhoods in '94, '95; reports 'lost'

When the Redfield rifle scope factory admitted in 1994 that it leaked toxic chemicals into a site surrounded by homes in southeast Denver, state environmental regulators had an unusual response.

They did nothing.

The next year, Redfield did more tests and reported more pollution. The state response: more silence.

Meanwhile, the underground plume of industrial solvents oozed through the Cook Park and Virginia Village neighborhoods as fast as 200 feet a year.

Today at least 169 homes have been contaminated at levels exceeding national cancer standards, and regulators still don't know how far the pollution has spread. New tests this month showed the plume apparently has flowed more than a mile from the former factory at 5800 E. Jewell Ave. to the banks of Cherry Creek.

Forty-three homes tested positive this month for the disintegrating chemical, called 1,1-dichloroethene, or 1,1-DCE, a possible carcinogen.

More pollution checks are being ordered on another 200 homes, but the sheer volume of work is overwhelming testing laboratories and causing delays.

'How can I trust anybody about this?' asked Dara Hoffman, 51, an interior designer who bought her home in June only to learn that it was atop a channel of pollution. 'I work hard and I buy a house, and then I find out it's a toxic dump site. How would you feel?'

State officials said a management foul-up prevented them from responding to Redfield's 1994 and 1995 admissions of pollution woes.

'Apparently what happened is that the letters were misplaced,' said Howard Roitman, director of the hazardous-materials division of the Colorado Department of Public Health and Environment. 'It was a mistake, to be perfectly honest. The letters were not actually found until early in 1997. ... Somebody didn't recognize the significance of it.'

Redfield had a history of regulatory trouble. At one point in the 1980s, the company forced the U.S. Environmental Protection Agency to obtain a search warrant before allowing a routine inspection of the factory. An October 1981 aerial photo of the 11-acre complex shows 'staining,' or apparent pollution, flowing from a waste-oil tank toward Cook Park homes.

Executives at Brown Shoe Co., which owned Redfield from 1979 to 1984 and then leased the 11-acre factory to subsequent owners, said they first discovered pollution while trying to sell the site in 1994.

'We did inform the department of health (about pollution) in 1994, but we never heard back from the department of health. We found more in 1995, and we reported that to the department of health, but we didn't hear back,' said Lloyd Brunkhorst, director of technology and engineering for Brown, a $ 1.6 billion-a-year St. Louis shoe company best-known for its Famous Footwear, Buster Brown and Naturalizer brands.

'We've tried to be as proactive and give as much information as we can. ... We're committed to doing what's right.'

The health consequences of the pollution remain unclear. State officials so far have required decontamination of 169 homes with at least 0.49 micrograms per cubic meter of industrial solvent vapor, a pollution level believed to create a 1 in 100,000 risk of cancer over 30 years.

However, the pollution found recently in some Cook Park homes was up to 200 times greater than the health standard, and no one knows how long residents had been exposed to the invisible, odorless gas. The government hasn't conducted any studies comparing cancer rates in contaminated and clean homes.

In addition to the 169 homes polluted at the state's 'action level,' another 75 are tainted but at levels low enough to meet the health standard.

Neither regulators nor company executives can pinpoint when the pollution began. Hamilton Watch Co. built the factory in 1955; officials say the company tried to blend in with the developing neighborhood of one-story ranch homes by designing the factory to resemble a school. IBM leased the property for a year in the 1960s.

By the mid-1960s, the first of several owners, using the Redfield name famed to hunters, began manufacturing aluminum rifle scopes and binoculars in southeast Denver.

At the Redfield factory's peak, more than 160 workers made 125,000 high-quality rifle scopes a year in the 80,000-square-foot building. But when business competitors started making scopes with cheap overseas labor, Redfield felt pinched financially.

In September 1982, Redfield refused to let EPA inspectors inside the plant. Redfield finally allowed a hazardous-waste inspection after the EPA returned with a search warrant.

Federal inspectors found several pollution problems. Aluminum scrap, dripping with oils and other chemicals, was being stored outside in trash bins.

The EPA said a 'discharge was evident for a distance of several hundred yards across the parking lot and ground.' Aerial photos from the time show that discharge, most likely contaminated with industrial chemicals, flowed east toward Cook Park homes.

The 1982 EPA inspection found several other environmental law violations, including this one: 'Leakage of material was noted from a severely dented drum. The spillage was oil-like. '

The EPA fined Redfield $ 13,000, but the company protested.

'Redfield, as is many other companies, is in considerable financial strife,' Redfield operations manager Roger Geer wrote to the EPA in February 1983. 'If it were not for corporate interests, Redfield would have ceased to exist one year ago. It is for these reasons that Redfield instituted a complete austerity program, which led to our EPA problem.'

The company paid the fine and stayed in business. Three years later, in 1986, Redfield paid another $ 3,750 fine after state inspectors found that the company produced more than 2,200 pounds of hazardous waste a month but didn't obey safety and training requirements for large-scale toxic generators.

In December 1993, Brown Shoe Co. tried to sell the Redfield property. But a company report found industrial solvent pollution at the site at least 100 times worse than state

groundwater standards. The exact amount of the violation was unclear because pollution was found 'at concentrations greater than the laboratory limits.'

Seven months later, in July 1994, Redfield president Franklyn Schadrack wrote a letter to state regulators disclosing the pollution. 'Redfield would like to meet with the appropriate (state) personnel to discuss this matter and potential remediation options,' Schadrack wrote.

State officials never responded.

The company ordered more tests in 1995 and disclosed more results to the state that year, but that letter also was placed in the wrong government file.

In 1997, state regulators finally got involved. Pollution was found outside the factory complex and in the adjoining neighborhood. Though the pollution was in groundwater 30 feet underground, it was strong enough to evaporate up through the soil, through concrete foundations and into home basements.

The landowner began distributing testing canisters, roughly the size of a vacuum cleaner, that collect overnight air samples in home basements. Each test costs the company about $ 1,000.

With mounting environmental costs, Redfield shut the factory in June 1998. The landowner and former company owner, Brown Shoe Co., has been paying the cleanup bills ever since.

In houses exceeding the health standards, Brown Shoe Co. installs $ 1,300 ventilation systems, which are designed to suck out vapors from the confined indoors and waft them outdoors. Each resident also gets a $ 300 check to pay for five years of higher electrical bills caused by the ventilation system.

'We're pleased - no problems with property values,' said Terri Jensen, 40, a mother of two whose home originally was found to be contaminated with solvent vapor 50 times worse than health standards. 'Our kids are healthy, fine.'

Like dozens of other homes outfitted with company-financed ventilators, the Jensen house now meets health standards for vapors of the chemical 1,1-DCE.

This spring, the company and state regulators believed the pollution plume was limited to a two-block area north of the plant.

But in August, they received some startling test results: An underground seam, no wider than a house, was channeling pollution across the 1800 block of South Jasmine Street, up the 1700 block of South Ivy Street and across East Mexico Avenue, where the pollution then apparently flowed in a two-block-wide swath all the way north to Cherry Creek.

'I feel OK here. Maybe I'm in denial,' said Dr. Scott Haugen, 27, an internal medicine resident at University Hospital who rents a home directly above the Jasmine Street pollution seam.

Here's how narrow the seam is: Across the street, Brandy Gilmore's house, which is believed to be atop the fissure, required a pollution ventilation system. But the house of his next-door neighbor, Art Fine, didn't.

'I think the department of health is out to lunch on this one. They set the (pollution) standard way, way too low,' said Gilmore, 69, a retired geologist for the state Transportation Department. 'The company seems to be trying very hard to take care of the problem.'

His neighbor, Fine, 68, a Denver judge, is trying to sell his house for unrelated reasons. 'It's a fabulous house in a good neighborhood,' said Fine, who is seeking $ 275,000 for the three-bedroom, two-bathroom home. 'I don't think there's any hazard.'

Fine has suffered prostate cancer, and his wife had breast cancer. 'But,' the judge noted, 'a lot of the population does.' (State officials say 45 percent of all Coloradans eventually suffer some kind of cancer, and it's difficult to prove in court that any cancer was directly caused by environmental exposure to chemicals.)

The judge added, 'Make sure you put in that (the plume) misses my property.'

In back of his house is Hoffman, the interior designer who said she bought her home in June without knowing the full extent of pollution.

From the groundwater channel beneath Hoffman's house, engineers say, the pollution flows north to Cherry Creek.

The amount of pollution inside a home isn't always linked to the extent of groundwater contamination. Some homes have unlined crawl spaces atop sandy soil, which makes it easier for vapors to seep into living spaces. Other homes have thick foundations on clay soils that repel the vapors.

Since this summer's discovery of the narrow pollution seam, state and company officials said they've been scrambling to order as many tests as quickly as possible. But the orders are swamping the few laboratories that can handle such sophisticated vapor measurements, officials said.

Executives said they hope to complete testing of up to 200 more homes by April. Two full-time workers now are collecting neighborhood test results.

The company has built a groundwater-cleansing system at the factory site to prevent more pollution from escaping into homes. Though the home ventilation systems redirect

polluted vapors away from living quarters, no one has tried to clean the polluted groundwater outside factory boundaries that keeps releasing the DCE gas.

So far the state has announced no penalties against Redfield for the pollution. Though the case is the responsibility of state regulators, federal officials voiced doubts about the state's early response to Redfield's pollution.

'If we got a letter like that, saying there was a problem of that magnitude in a residential area, I'd like to think we'd have somebody out there working on it the next day,' said Denver regional EPA enforcement official Marvin Frye.

The Philadelphia Inquirer JANUARY 10, 2001

CLEANUP UNDER WAY AT OLD CHEMICAL PLANT THE PAULSBORO SITE, OWNED BY THE BP OIL COMPANY, WAS POLLUTED BY DECADES OF SPILLS. GROUNDWATER WAS TAINTED.

:
Over 75 years, chemicals and oil spilled from storage tanks, railroad cars and trucks onto a 130-acre site now owned by BP Exploration & Oil Inc.

The contaminants, from a chemical plant that has been since been closed, eventually seeped into nearby residents' groundwater.

Now, two areas of major contamination - and the primary sources of the neighbors' problems - are being cleaned up as part of a $1.5 million project mounted by BP.

The project, begun in December and scheduled to be finished in May, will clean "the dirtiest parts of the site," said Steve Pause, environmental project manager for BP.

The company this month began installing equipment and piping for a vacuum system that will remove chemical vapors from both areas, he said. The vapors will then be treated and burned.

The first area, about five acres, contains three tanks that held chemicals and petroleum. Fuel leaked from underground pipes that connected the tanks, Pause said.

At the second area, almost four acres, fuel was poured into railroad cars and trucks. Because the loaders did not use gauges, fuel often spilled when tanks on the trucks and rail cars were topped off, Pause said.

"They're trying to remove this source material that continues to reach out to the groundwater," said Mark Walters, the project manager for the state Department of Environmental Protection.

Home to chemical companies since the 1920s, the property - bordered by the Delaware River and Mantua Creek in northeast Paulsboro - was purchased by BP in 1969.

The company has been removing chemicals and petroleum from the area since the DEP discovered groundwater contamination at the plant in 1981.

BP discovered in early 1993 that groundwater at 23 homes on two blocks near the site was also contaminated, and residents were alerted. Chemical vapors were found in some of the basements, Pause said.

When neighbors found out about the contamination, "the community kind of felt abandoned," said Georjean Widener, who lived two blocks from the site for seven years. "You had this nationwide company against just two blocks."

The company tried to soften the blow by offering residents a package that included $10,000 over five years for home improvements.

BP also offered to buy residents' homes at market value. It eventually bought seven.

Widener accepted the $10,000 and continued to live in the area, but she was nervous about the pollution and how it would affect her two young sons.

"I always thought about it, especially because you could smell it," she said. "You could always smell that gasoline, that fuel smell."

In 1998, the company began to hold public forums and distribute newsletters about the site.

"My husband still felt like we weren't getting the whole story," Widener said.

Her family moved to Swedesboro in 1999.

Health concerns also spurred other residents to move, Widener said.

In the mid-1990s, "when all the things were going on, we were in a reactive mode," Pause said. "We were looking to fix the problem as it existed. We were focused on cleaning the neighborhood."

The plant closed in 1996, but further studies revealed the primary sources of the leaking chemicals.

The property is also part of a redevelopment study, funded by BP and Dow Chemical, which owns 60 adjacent acres. Both properties are for sale.

After completing the first phase of the study, URS Corp. of San Francisco recommended that the properties be used for light-industrial and commercial use or as a container terminal.

Now, in the second phase of the study, URS is examining the economic and environmental impact of the recommendations.

The New York Times January 14, 2001

As New Term Nears, Town Is Split on the Safety of a Middle School Built on a Landfill

HAMDEN, Conn., Jan. 12— After an extended winter break to allow for the cleanup of possible toxic contamination, classes are set to resume on Tuesday at Hamden Middle School, but the community remains hotly divided over whether the school, which was built on a former landfill, is safe. Some teachers say they may quit rather than return to work, and some worried parents say they may keep their children home.

State and local officials insist the school building is clean. On Thursday, local officials held a six-hour information forum and public meeting at Miller Memorial Library in downtown Hamden, where health, environment and safety experts described the $1.2 million cleanup effort and explained that the most recent test results showed no public risk. They defended school officials' decision to restart classes.

Skeptical parents and teachers responded with a news conference this afternoon at which they presented their own environmental experts who called the test results incomplete and warned of many possible dangers.

The parents' experts, who said they had not reviewed the recent test results, sounded a general alarm about exposure to carcinogens and about the explosive nature of methane gas produced by the old landfill.

"The bottom line is this school is built on a toxic waste dump," said Gladys DeLucia, the mother of a seventh grader and president of the middle school parents' association who organized today's news conference. Ms. DeLucia said that the school should be closed, and that in any case she was considering teaching her daughter, Christine, at home. "If I have any alternative, I will not send my child back to that school," she said.

Concerns about contamination on the middle school campus were renewed in the fall when officials announced the results of environmental tests conducted as part of a plan to build a $19.5 million addition to the overcrowded school.

The middle school, which was built in 1954, has had problems with contaminants before. In the 1990's, corrective work was done on its soccer fields after tests revealed high levels of lead in the soil.

Lead was found again in the tests done in the fall, as well as methane and polyaromatic hydrocarbons, compounds commonly formed during the burning of organic materials like garbage, cigarettes, wood or food. Indoor air tests found no risk to children or teachers. On Dec. 20, school officials said that the building would remain open, but that the Christmas vacation would be extended for two weeks to allow further testing and a precautionary cleaning of the building.

The next day, parents organized a protest that resulted in more than 400 of the school's 1,000 students staying home. Emotions have run high ever since. More than 80 of the school's 100 teachers signed a petition saying they did not want to return to work.

Nearby residents have also expressed anger, and officials have extended the testing beyond school grounds, promising to conduct any necessary cleanup work.

Amid growing cries to close the building permanently, the Hamden Board of Education voted on Tuesday to spend $35 million to build a new middle school.

But the process of choosing a place to build it and construction will take at least three years. In the meantime, numerous steps have been taken to ensure that the old building is safe. Contaminated soil has been covered with a protective cap and new fill, and a new methane detector has been installed in the school's boiler room.

"Based on the data we currently have, which we have made available to middle school teachers and to the public, we are confident students and faculty are not at risk in the middle school," the Hamden schools superintendent, Alida D. Begina, wrote to the president of the local teachers' union. The letter was also signed by Mayor Carl J. Amento and the Board of Education chairwoman, Micaela Degnan.

In an interview, Dr. Begina put it more succinctly: "School will reopen." But whether students and teachers will return on Tuesday morning remains to be seen. Some parents, like Jeff and Nancy Bartell, said they had not decided whether to send their son, Zachary, back to school. "I would feel most comfortable if the school were closed and our son would be sent somewhere else, no matter how inconvenient that would be," Mrs. Bartell said.

Other parents, however, said they were confident that the children would not be in danger. "They have been very forthcoming," said Lauretta Dowling, whose son Steven is a seventh grader and whose husband, Michael, attended the school nearly 30 years ago. "Every town official has been involved," she said. "I have a good comfort level right now that everything is going to be O.K., that they are not going to put him in a situation where he's going to get sick."

Rosalie Swanson, a seventh-grade English teacher who has worked at the school for 17 years, said she was not happy about returning on Tuesday and had considered quitting. "I feel like I'm having to make a choice between my health and my means of making a living," she said, "and I don't feel that's a fair choice."

The school principal, Lisa Norwood, said she was confident that most members of the staff would return to work out of a sense of obligation to their students. Ms. Norwood said she had asked health and environmental officials to answer students' questions submitted on index cards before winter break, so that the students would feel that information was being provided directly to them and not just to parents.

At one point when things began to get heated during Thursday night's meeting, Ms. Norwood stood up and passionately urged the school community to remain united. "I am just so anxious to get back to school and back to educating these children," she said to loud applause. "Let the children come back," she pleaded. "If you are uncomfortable, stay diligent in your quest. That's all I'm asking us to do as a school. You can have differences of opinion, but stay united."

The New York Times March 19, 2001

Study Cites Illness in Alumni Of Schools on Industrial Sites

While being treated for leukemia seven years ago, Kim Tolnar, a 1983 graduate of River Valley High School near Marion, Ohio, was contacted by another woman who had attended the same school in the late 1980's and was battling the same disease.

The two young women soon discovered nine other cases of leukemia among the more than 5,500 students who had attended the school since it opened in 1963. The number of cases in a population that size over that period would ordinarily be expected to be three, statisticians said.

Though district officials knew the school had been built on the site of an Army depot, not until the leukemia cases surfaced did they learn that part of the site had been an Army dump for solvents and automotive lubricants.

The story of River Valley and the arguments for and against closing it are in 1 of 15 case studies in a report to be released today by a coalition of parent and community activists known as the Child Proofing Our Communities Campaign. The report's authors said that serious health problems reported by graduates of schools built on old landfills and factory sites were increasing but that districts still relied on such sites for schools.

In describing the appeal of such locations, school districts cite the pressures of escalating enrollments and real estate prices, and they argue that there is little cause for concern unless a link between the chemicals on a site and a cluster of cancers can be confirmed. Districts also say that clusters of cancer cases can simply be statistical aberrations.

Dr. Philip J. Landrigan, the director of the Center for Children's Health and the Environment at Mount Sinai School of Medicine in New York, who was not involved in the study, suggested that districts should err on the side of children when chemicals were involved.

"I don't think anyone would disagree with the proposition that children should go to school in a safe place," Dr. Landrigan said. "The critical issue is where you set the threshold.

"The way in which regulation works in most circumstances is that chemicals are considered innocent until proven guilty," he added. "But when there's a preponderance of evidence, I think it's probably more reasonable to act."

At River Valley, in a rural community of Marion County about 45 miles north of Columbus, about half of the school's 78 acres have been fenced off, including several ball fields where chemicals known or suspected to cause cancer were detected.

State and district officials contend that the school's occupants face no risks, so River Valley High will remain on the site until at least 2003, when a new school is to be built. But people who believe they are victims of the location are not pleased.

"It infuriates me that there are kids right now going to school there," said Ms. Tolnar, 36, whose cancer is in remission. "There are parents who know about what happened to us, and they still don't get it."

Among the other cases examined in the report was that of a high school in Elmira, N.Y., where 22 cases of cancer, including testicular cancer, were confirmed among 7,500 people who attended in the last two decades. The land on which the school was built had been used for industrial purposes as far back as the Civil War. State officials have declared the school safe, but parents dispute those findings and want it closed.

Trying to rebut the arguments of school districts that consider former industrial sites cost-effective, the report's authors recount the travails of the Los Angeles school system. As early as 1993, state officials warned the school district about the dangers of building a high school on an abandoned oil field, but their concerns went unheeded. Last year, after spending more than $125 million on the project, the district scrapped it, largely because methane was seeping out of the soil.

"You could look at what happened at Love Canal and say, 'We didn't know there was a risk,' " said Lois Gibbs, whose family was among hundreds of people who fled that upstate New York community two decades ago after learning that it had been built on a toxic dump.

Ms. Gibbs, the executive director of the Center for Health, Environment and Justice, a nonprofit organization in Washington, helped organize the study to be released today.

That such cases can be complicated is underscored by the continuing fight over River Valley High.

Tests have revealed elevated levels of benzo(a)pyrene, a carcinogen similar to the tar in cigarettes, and tricholorethylene, a widely used solvent that might be carcinogenic, in the

soil around the school. But state health and environmental officials have said there is no way for students to ingest or inhale those chemicals, particularly with the ball fields closed as a precaution.

"Contaminated doesn't mean it's dangerous," said Thomas G. Shade, the superintendent of the River Valley school district, who supports the school's continued operation. "It just means it's contaminated."

Photo: Kim Tolnar is among 11 graduates of River Valley High School, near Marion, Ohio, with leukemia. The school is on the site of an Army depot.

The Denver Post April 29, 2001

Leak ignored by state spreads Toxins move into streambed in Denver

A toxic leak ignored by state regulators for two years now is among the worst in the Rocky Mountain West, forcing the decontamination of 310 southeast Denver homes and sending officials scrambling to learn how far the pollution has spread.

The underground plume of industrial solvents flows at least 2 miles north and west from the former Redfield rifle scope factory at 5800 E. Jewell Ave., state officials suspect.

That's twice as far as regulators estimated just four months ago.

The problem: Toxins apparently have wandered into an ancient underground streambed that trickles beneath another neighborhood of houses and apartments.

State officials concede they still aren't sure where the pollution stops.

'I'd love to be able to tell you we see the end, but so far we have no indication that we've got it all tracked,' said Marion Galant of the Colorado Department of Public Health and Environment.

State officials estimated 4,000 people live atop the plume. It's unknown how many of them have been exposed to unsafe levels of the chemical 1,1-dichloroethene, or DCE, which the government classifies as a possible carcinogen. Dozens more neighborhood tests are being scheduled.

The Denver Post reported in December that Redfield executives warned the health department of pollution problems in 1994 and 1995, but state officials took no protective action until 1997. Meanwhile, the plume of DCE oozed beneath the Cook Park and Virginia Village neighborhoods as fast as 200 feet a year.

In December, 169 homes had been contaminated at levels exceeding the state's cancer standard. By last week, that number swelled to 310, with dozens of homes and apartment complexes still to be tested.

It wasn't just the raw numbers that raised concerns.

New tests yielded disturbing news: Some of the plume's worst pollution - 224 times greater than the health standard - was found inside a house 11/2 miles from the old Redfield factory. That's the farthest home checked so far for Redfield contamination.

Last week, that house, in the 5100 block of East Missouri Avenue, had a 'For Sale' sign in front of it. A real estate agent said the owner could not be reached for comment.

State health officials said they plan this summer to investigate cancer rates in the contaminated area.

A May 1999 study, conducted in a much smaller neighborhood tract when officials believed the plume was smaller, found no unusual occurences of liver cancer, the most serious illness linked to the leaking chemical.

Neighborhood concern

Neighborhood residents voiced concern for their health and their property values.

Dave Huss, 35, said he learned of possible pollution problems this spring when a work crew began digging a test well in the street in front of his Nebraska Way house. He asked for an indoor air test and got distressing results: His home air was contaminated at levels 157 times greater than the health standard.

'When we first heard about it, we were panicked and angry. I called a Realtor. I called two lawyers,' said Huss, a technology worker. 'We've got a 2-year-old daughter. Say you've got kids. Would you buy my house right now?'

Still, Huss, like many neighborhood residents, said his family was sticking with the area, largely because the former Redfield owner, the St. Louis-based Brown Shoe Co., agreed to install a special ventilation fan to remove the colorless and odorless pollution vapors from the home.

The $ 1.6 billion-a-year company, best known for its Famous Footwear, Buster Brown and Naturalizer brands, said it will install $ 1,300 ventilation systems in all homes with pollution exceeding health standards. The company owned Redfield from 1979 to 1984.

'We are being very proactive,' said Dennis Snyder, director of corporate planning for Brown. 'We are going as quickly as we can. We are trying to get to the end of this plume as quickly as we can.'

A company-financed Web site, www.redfieldsite.org, lists real estate summaries indicating that local property values haven't been hurt by Redfield pollution.

But few polluters in the Rocky Mountain West have sullied so many homes.

Though Superfund workers cleaned as many as 500 homes in Midvale, Utah, and Colorado supervised a decontamination of 2,500 homes in Grand Junction, those projects were caused by historic mining or smelter operations that polluted surrounding soils.

DCE a possible carcinogen

By contrast, Redfield contaminated moving streams of groundwater that have spread pollution to new homes and neighborhoods.

Redfield pumped out industrial solvents that disintegrate into DCE, which the U.S. Environmental Protection Agency classifies as a possible carcinogen.

Also, breathing high levels of DCE affects the central nervous system, and breathing lower levels over time may damage the nervous system, liver and lungs, according to federal health officials.

EPA's health standard for DCE pollution has been in place at least 10 years, an agency official said. But after reviewing DCE health studies, mainly from the mid-1980s, a key EPA toxicologist now says DCE may be less dangerous than previously thought.

He's proposed a more lenient standard for DCE pollution. A panel of outside scientists is to review that in June in Washington, D.C.

It's unclear how long the Redfield factory has been leaking pollution.

The plant, which had a history of regulatory trouble, was built in 1955 and operated by several owners before it started producing high-quality rifle scopes in the mid-1960s under the Redfield name. At its peak, Redfield produced 125,000 scopes a year with 160 workers.

A 1981 aerial photograph of the 11-acre complex shows 'staining,' or apparent pollution, flowing from a Redfield waste-oil tank and toward Cook Park homes. Amid mounting environmental woes, the factory shut down in June 1998.

Last spring, the state and Brown executives said they thought the plume was contained within a two-block area just north and east of the plant. But in August, they discovered an underground seam, less than 50 feet wide, carrying pollution around a bedrock barrier and north toward Cherry Creek.

Officials originally suspected the pollution would enter Cherry Creek and be diluted enough to stop posing health risks. But now they believe the plume turns northwest into

an ancient underground channel of Cherry Creek and carries the pollution at least a mile beyond, out of Denver and into the Glendale city limits.

Groundwater samples show a plume of DCE just south of the creek from South Holly Street to somewhere past South Cherry Street. State officials say that extended plume, shaped like a finger, carries chemicals similar in makeup to the Redfield plume.

Redfield executives said they don't know if the finger plume is theirs, and state officials said they're not sure how long it will take to learn the true extent and source of the pollution.

'I don't want to give any estimate,' said Howard Roitman, hazardous waste director for the state health department. 'We thought we knew (the plume length) a while ago, and we were proven wrong.'

Now the Brown Group is trying to schedule pollution tests in dozens of apartments and condominiums in the plume's apparent path just south of the creek. State officials also plan tests north of Cherry Creek.

Regulators say it isn't easy to figure out which homes face the greatest risk of contamination.

At some points close to the factory, where the groundwater pollution is worst, the plume is 30 feet underground and the air inside houses is barely tainted.

As the plume flows closer to Cherry Creek, groundwater pollution is less concentrated, but it's as little as 8 feet underground, enabling DCE vapors to leak more easily into basements and crawl spaces.

'They found it in my closet right over there,' said Ida Boye, 66, who has lived for 20 years in a one-story ranch house on the 5400 block of East Nebraska Way. Her home air tested 30 times greater than the health standard. 'I felt safe living here before. Now they put in a ventilator, and I feel safe today.'

State health officials noted that Colorado is one of the few states requiring extensive decontaminations for home air polluted by leaking industrial solvents. The U.S. Environmental Protection Agency is conducting a national review of the current health standard for the vapor.

In the meantime, the Brown Shoe Co. has two full-time workers canvassing the neighborhoods, performing $ 1,000 air tests and installing ventilation fans in homes where pollution exceeds standards.

'We're working as fast as the system will allow us,' said Lloyd Brunkhorst, technology director for Brown. 'We're going to keep tracking it closely and stay with it.'

The Denver Post May 13, 2001

Toxic cleanup in doubt EPA expert suggests '86 study overstated threat of pollutant

The decontamination of hundreds of homes outside Denver's Redfield rifle scope factory now faces a startling twist: A top federal scientist says the pollutant is far safer than previously believed.

After a year-long study with national implications, a U.S. Environmental Protection Agency toxicologist has concluded that homeowners could breathe 400 times more of an industrial chemical called 1,1-Dichloroethene, or DCE, without harm.

Bob Benson's recommendation to scale back EPA's health advisory for the pollutant still is preliminary. It faces months of additional analysis, including a major scientific review next month in Washington, D.C.

But if adopted by the agency, the proposal most likely would lead to more-lenient cleanups nationwide for DCE. The current federal advisory for how much DCE is dangerous has governed hundreds of toxic cleanups since 1986.

The recommended change is perplexing both homeowners and regulators in the cleanup of Redfield.

For the past three years, thousands of southeast Denver residents were warned, based on an EPA health advisory, that they had lived with possibly cancer-causing levels of toxic gas inside their homes. The fumes wafted from a 2-mile underground pollution plume leaking from 5800 E. Jewell Ave.

Because of that 15-year-old EPA health guideline, a company has spent $ 4.8 million to decontaminate 315 homes and attempt to block the Redfield pollution.

Now Benson - the chemical expert who led the EPA's national review of DCE - says the pollution may not be so dangerous after all. None of the 315 decontaminated homes exceeded the proposed new health level for DCE. At least 130 other homes are to be tested.

EPA today classifies DCE as a 'possible carcinogen.' But Benson said a cancer link isn't as clear as the agency stated 15 years ago.

'It's a close call. Not everyone is going to agree with what I did,' Benson said in an interview. 'I took the science and made what I think is a conclusion supported by the evidence.'

Many of the key players - from state regulators to the company financing the cleanup, from homeowners to a major DCE manufacturer - are trying to figure out what this will mean.

State environmental regulators said they are reviewing the proposed change but noted that states can set their own cleanup standard for chemical pollutants.

'If we believe that changing this would put people at risk, we would not go that direction,' said Mike Wilson, toxicologist for the Colorado Department of Public Health and Environment.

Shoe execs back findings

The company financing the Redfield cleanup, Brown Shoe Co. of St. Louis, offered no opinion on whether the DCE pollution health advisory should change. But executives said they back the scientific review.

'We feel it's very good that the EPA is going back and looking at the standard,' said Lloyd Brunkhorst, technology director for Brown, which operated the Redfield factory from 1979 to 1984. Brown executives said they had not worked to influence EPA on the pollution health advisory, and Benson said he had not been lobbied by industry on his proposal.

Residents of the Cook Park and Virginia Village neighborhoods expressed skepticism and confusion over the varying government views on how much DCE is dangerous.

'At this point, I don't trust the government,' said Dara Hoffman, whose home was outfitted with a pollution-ventilation fan to remove DCE vapors. 'How would you feel living in my house?'

Ron Petersen of the Cook Park Neighborhood Association said, 'I don't know what to make of this. ... If there is a lack of data on this, it makes you wonder how they can change a number.'

Executives at Dow Chemical Co., one of the largest manufacturers of DCE, said they are studying the proposed change.

The DCE debate illuminates a little-known but crucial process: How the government decides what level of pollution is safe for people.

EPA now publishes health advisories for 538 pollutants in its Integrated Risk Information System, or IRIS, database.

Some advisories, for lesser-known chemicals such as 1,1,2-Trichloro-1,2,2-trifluoroethane, have stood for years. Others, for widely used chemicals such as the gasoline component benzene, have been the subject of major regulatory fights.

Lives, dollars at stake

The stakes are enormous.

One small change in an EPA health advisory can add, or subtract, millions of dollars of cleanup costs for polluters. The same change also can alter the cancer risks for thousands of Americans.

EPA's guideline for DCE had gone unchallenged since 1986, when a panel of scientists reviewed existing research and concluded that the chemical was a 'possible human carcinogen.' Last year the agency assigned Benson to see if a new advisory was justified.

A former toxicologist for the U.S. Food and Drug Administration, Benson, 59, has a doctorate in biochemistry from UCLA. He has handled pollution cases for EPA for the past 10 years and previously directed major EPA reviews of two other chemicals, tributyltin oxide and chlorohydrate.

DCE has been found in at least 515 Superfund sites across America. The Superfund law regulates many of the nation's toxic cleanups. The DCE in southeast Denver came from years of industrial spills at the former Redfield factory, which is not a Superfund site.

'The Superfund program wanted the chemical to be looked at again,' Benson said. 'They didn't pressure me about how it would come out. I didn't realize it would get into the kind of controversy it's headed for.'

Benson put out a call for professors, companies and scientists to send the EPA results of their most recent health studies on DCE. What came back surprised him.

Though DCE rates No. 15 on the government's list of the most common toxic pollutants, scant research had been done on it since the EPA standard was set in 1986.

'The toxicological data is very weak,' Benson said. 'The problem with all of them is that they're not done the way we'd like to see these kinds of studies done in the '90s. ... The manufacturers don't have a large interest in doing testing because they're not using the product.'

Early study deemed flawed

In fact, one pivotal study considered by Benson had been reviewed by EPA when it first set the DCE health guideline - a 1985 experiment where an Italian researcher exposed mice to the chemical.

Benson said more recent research led him to conclude that the cancer links to DCE in that study probably were unique to the species of mouse, not indicative of a cancer link to humans.

A later study, by a Dow scientist who exposed rats to DCE, helped support a more lenient health advisory, Benson said.

His conclusion: DCE may be linked to cancer, but there's not enough evidence to tell how much exposure to the chemical vapor may cause it.

Or, as he wrote in an EPA publication, '1,1-DCE shows suggestive evidence of human carcinogenicity by the inhalation route of exposure. The weight of evidence, however, is not sufficient to justify deriving an inhalation unit risk.'

Under Benson's proposal, the pollution standard for DCE at sites such as the Redfield factory would go from 0.49 micrograms per cubic meter of air to 200 micrograms per cubic meter. A microgram is one-millionth of a gram.

His proposal was reviewed by four EPA scientists in Washington before being released last month. The plan will be considered by more scientists in June.

If the proposal faces no serious opposition, the overall health advisory for DCE could be changed by September. But the process could take much longer, officials said.

The New York Times August 12, 2001

Unease Over Restaurant Atop Toxic Site

OVER 40 years ago, Gennaro Sbarro came to the United States from Italy with his wife and three sons to open an Italian delicatessen in Brooklyn. Now the Sbarro Corporation of Melville is a worldwide chain, with 920 restaurants in 27 countries.

In 1949, a dry cleaner opened in a Port Washington storefront on Port Washington Boulevard near the head of Main Street. There, a different story has unfolded, and in an unlikely turn, Sbarro has become entwined in the latest chapter.

In 1994, the New York State Department of Environmental Conservation found high levels of perchloro ethylene, a suspected carcinogen also known as tetrachloroethene, PCE or perc, in a soil sample taken from a sump inside a dirt-floor basement room beneath the dry cleaner.

Conservation officials said that their investigation showed that the tenant, Munsey Cleaners, had been dumping perc, used as a cleaning solvent, in the basement for years.

Perc is fat-soluble, and the same chemical qualities that make it effective in removing a gravy stain also mean that butter, cheese, oil and foods like pizza readily absorb it. The solvent is highly volatile and travels in the air as vapor. In amounts above 100 parts per million, the generally recognized government safety standard, it can irritate the eyes, skin and throat. If ingested in large enough quantities, it can cause liver and nerve damage.

In 1995, Munsey Cleaners moved a few doors away. Since then, the Monfort Trusts, the owner of Munsey's original location and a dozen or so adjoining stores, has spent

$300,000 for remediation, removing 30 tons of tainted soil and sealing the basement room, which is off a common corridor that runs beneath all the stores.

Despite the cleanup, vapors from the soil and ground water contamination have persisted. The conservation department lists the storefront that the dry cleaner occupied as ground zero of an inactive hazardous waste disposal site.

More years of remediation lie ahead, the conservation department said, because a plume of perc contamination from Munsey and another downtown dry cleaner has spread 500 to 700 feet northwestward.

Enter Sbarro, which had been looking for a location in Port Washington. The family-owned company, whose top executives live on Long Island, some in the Port Washington vicinity, is now close to opening its latest restaurant in the 4,000-square-foot storefront Munsey Cleaners once occupied.

R. Mel Grillo, a Sbarro vice president and the company's general counsel, said last week that work on the new restaurant, to be called Mama Sbarro, was 95 percent complete and that Sbarro would like to open it in 30 to 60 days. All that is needed is a certificate of occupancy from the Town of North Hempstead.

But an influential local group, the Residents for a More Beautiful Port Washington, which has 1,800 members, is asking the town and the state conservation and health departments to stop Sbarro. The group is also appealing to Attorney General Eliot L. Spitzer to intervene.

Allowing Sbarro to open before the cleanup is complete would be an unthinkable lapse of judgment, the group contends. "We can't find anywhere else in the State of New York where there's been a restaurant allowed on a hazardous site," said Jennifer Rimmer, the group's executive director. "Everyone is walking around saying, 'How can this be happening?' "

The group has gained support from State Senator Michael A. L. Balboni, Republican of East Williston, and State Assemblyman Thomas P. DiNapoli of Thomaston, a Democratic candidate for Nassau County executive.

In a July 26 letter to Erin Crotty, the state's environmental conservation commissioner, and to Antonia C. Novello, the health commissioner, they asked, "Where else in New York State has a public restaurant been permitted to open" in a similar location? Mr. DiNapoli's office said last week that it had received no answer to the letter.

Sbarro, in a statement issued last week by Mr. Grillo, said that it respected the concerns raised by the residents' group and that it had been aware the prior tenant had contaminated the site. But Mr. Grillo said that before signing a lease Sbarro had been assured by Monfort that remediation "had been successfully undertaken" and that "the site was deemed safe to operate a restaurant" by state conservation and health officials.

"If it is deemed not safe, we're not going to open the restaurant," he said.

Ms. Rimmer said the residents' group was especially concerned because two Port Washington public schools, Schreiber High School and Weber Middle School, were within blocks of the restaurant.

A lawyer for Sbarro, Thomas A. Abbate of Woodbury, said that the residents' group was trying to manufacture a controversy. "Everything they have been telling the media goes directly against what the D.E.C. and the Department of Health and the town have correctly found to be the facts," he said. "Common sense dictates that we would never go

into a site that would be remotely considered unsafe. If the civic association argument makes any sense, then every store in that strip mall is unsafe. And that's just not true."

Town officials said they would issue a certificate of occupancy if Sbarro and Monfort had met guidelines set by the state health and conservation departments. "If they have met the requirements of the two departments and our building department, I do not believe we have any legal right to deny them the certificate of occupancy," said May W. Newburger, the town supervisor.

Mrs. Newburger said it was outrageous to suggest that she or anyone in the town would endanger public health and safety. "We would never knowingly do anything of that sort," she said.

One safety measure that Monfort and Sbarro have taken is the installation of a positive air-pressure ventilation system inside the restaurant, which is designed to keep out air from the basement. A soil vapor extraction system in the sealed-off basement room, which is below the restaurant but is not being leased or used by Sbarro, was shut down in 1998. It could be turned on again.

A lawyer for Monfort, Theodore Firetog of Farmingdale, said that the landlord had completed and would submit an air monitoring and reporting plan, which the state agencies are requiring.

A spokesman for the conservation department said that last November, perc readings at the site met state safety standards. But the residents' group contends that readings taken in May in the basement showed perc levels above 100 parts per million.

David I. Wasserman, the town's commissioner of building, safety inspection and environment, said that the sealed basement room now had a concrete floor and gypsum wallboard and ceiling tiles to contain any vapors. He said that the restaurant's floor, a concrete slab covered by ceramic tile, offered further protection.

"We have done everything and anything we can within our jurisdictional authority," said Mr. Wasserman, an architect.

He added that Sbarro had cooperated fully with the town. "I can honestly say they did everything right," he said.

But members of the residents' group disputed this. The experts they consulted told them that perc vapors could permeate porous material like concrete, the group's president, Myron H. Blumenthal, said. "They have told us you can't put up a barrier against perc," he said.

Mark Lowery, a spokesman for the Long Island regional office of the conservation department, said that the town would have the last word. "The certificate of occupancy would be the last piece of paper Sbarro needs," he said. He added that his agency did not believe the restaurant would be unsafe. "The perc is confined to a relatively small area in the basement," he said. His agency's only authority is to assure that "whatever happens in the building would not interfere with the investigation and remediation of the contamination," he said.

Mr. Lowery pointed out that excavation of soil in the basement was necessarily limited. "There is only so much you can dig out from under a building before it becomes unstable," he said.

In a letter to Mrs. Newburger dated July 31, Richard Fedigan, the chief of the health department's Bureau of Environmental Exposure Investigation for Long Island, said that

if safeguards were in place and perc levels were less than health department guidelines, "we have no objection to the space being used for food service."

But in a separate letter to the conservation department dated July 30, another health official said that more work was needed on the "dynamics of air flow" in the 14-store strip, particularly along the common basement corridor.

The Denver Post January 7, 2002

Pressure by Indiana neighbors prompts skeptical EPA to act

ELKHART, Ind. - Lorna Rickard wasn't supposed to know about pollution. At age 81, she could tell tales of the Great Depression, World War II or babysitting for nine great-grandchildren, but the fine points of industrial solvent plumes escaped her.

'What I knew about pollution was what I learned in biology class in 1937,' Rickard said.

It turned out that she knew more than the U.S. Environmental Protection Agency.

Leader of an Elkhart neighborhood group, Rickard suspected that vast pollution plumes from a railyard spill might be wafting industrial solvent vapors into homes above.

EPA doubted her. But with hopes of persuading Rickard to stop pestering him, an EPA official finally agreed to test the air inside some homes.

Sure enough, the government found toxic gas - enough to require the decontamination of nine homes.

'Today, I really appreciate that they prodded us on this issue. I'm glad they had us do this,' said Brad Bradley of the Chicago regional EPA office.

Rickard was a retired secretary when her neighbors learned in 1986 that their groundwater was contaminated. In a city that serves as an RV construction hub, Rickard and a diverse band of factory workers, teachers and construction framers formed a group called CLEAN, or Citizens League for Environmental Action Now.

By the early 1990s, regulators determined that a swath of Elkhart had been polluted by repeated spills and leaks from the square-mile Conrail Railyard. Some wells in the area were contaminated with degreasers such as carbon tetrachloride and TCE at levels up to 1,000 times worse than drinking water standards.

More than 640 homes and businesses with polluted wells eventually were hooked up to clean city supplies. But most pollution was allowed to remain beneath the homes.

In 1998, Rickard and other CLEAN members, especially RV factory worker Mike Fitch, worried that the underground contamination might be seeping up to houses.

'My grandfather found a co-worker dead from carbon tetrachloride. He was overcome by fumes when he was cleaning out a machine chamber,' Fitch said. 'I knew this was really wicked stuff, and I sure didn't want it in my home.'

Rickard, Fitch and other CLEAN members dogged the EPA until the agency finally agreed to test indoor air. The agency eventually found unsafe levels of carbon tetrachloride vapors in nine homes.

'I don't feel safe living in my home,' said David Henderson, 52, whose house exceeded health standards for vapors. 'I think the EPA should live in my house.'

The agency refused to buy Henderson's home, but it did order the installation of a ventilation system to rid the house of vapors. The system costs less than $ 2,000.

Though Chicago EPA officials say they're grateful the vapor problems were detected, they do wonder how many other polluted homes across America have undetected toxic gas woes.
'I learned a pretty powerful lesson from this: You've got to consider vapors,' said Bradley. 'On major remediation sites, we always ask the million-dollar question: How much testing is enough? In this case, I'm glad we tested. I never thought the vapors would be an issue here. We learned otherwise.'

The Denver Post January 13, 2002

Toxic test model unreliable

Across the country, environmental regulators rely on a computer model that may underestimate the level of toxic vapors seeping into people's homes. The U.S. Environmental Protection Agency must impose a moratorium on use of the model until the discrepancies are corrected.

The Johnson-Ettinger model was developed in 1991 by consultants for Shell Oil Co., which wanted to limit its liability for the cleanup costs at the Rocky Mountain Arsenal near Denver. The model supposedly shows how much toxic vapor will rise from solvents or other pollutants in groundwater, and enter homes, schools or other buildings above the plume.

But after actually sampling the air near polluted sites, the Colorado Department of Public Health and Environment discovered that the model vastly underestimated how much toxic gas really got into people's homes. Colorado officials so distrust the model's predictions that they instead require polluters to actually measure the level of vapors in the air before determining how much pollution cleanup work is needed.

Thus in Colorado, residents near polluted sites have a realistic idea of how much vapor is entering their neighborhoods and which homes need environmental remediation, usually some kind of ventilation system.

EPA's Rocky Mountain regional office also has done similar field tests in Utah and North Dakota, rather than let the model tell them whether polluters needed to cleanse homes of toxic fumes.

But the same level of care isn't being exercised around the country, Denver Post reporter Mark Obmascik learned after investigating several sites that had been polluted by industrial solvents in the groundwater.

Indeed, while Colorado has far fewer industrial pollution sites than heavy manufacturing states like Illinois or Louisiana, Colorado has ordered more cleanups of residential areas. The disparity stirs worries that other states just aren't looking for evidence of pollution, thereby letting polluters off the hook. If so, EPA is fumbling its job and the American public isn't being protected.

EPA acknowledges that some states may have misused the model. At a conference next week in Washington, D.C., EPA will meet with state regulators from around the country and issue new guidelines for using the computer model. EPA says the model should be only the first step in a three-part process to decide if homes should be cleansed of toxic fumes. The guidelines will be finished in February, subject to a 60-day public comment period, and likely become legally binding in June.

So, despite admitting that the model has sometimes been misapplied, EPA illogically plans to let state regulators keep relying on it for at least six months.

Unanswered questions about the model's reliability should compel EPA to suspend its use immediately, and require states to do actual field tests at polluted sites nationwide.

Denver Post January 7, 2002

In Rockford, no response 'We didn't want to be a buttinski,' EPA official says

ROCKFORD, Ill. - State regulators knew in the mid-1980s that strong bands of industrial pollution flowed beneath hundreds of homes here. In 1993, officials finally decided to check inside some homes for toxic gas.
They found dichloroethylene gas.
They found tetrachloroethylene gas.
They found trichloroethylene gas.
They found trichloroethane gas.
If the same levels of gas had been found inside homes in Colorado or Massachusetts, state governments there would order major decontamination work.
But in Illinois, where state regulators worked at the behest of the U.S. Environmental Protection Agency, there was another reaction.
They did nothing.
'We didn't want to be a buttinski,' Chicago regional EPA official Russell Hart said. 'We don't want to be shriekers or alarmists. ... We don't want to be a meddling influence in their life.'
Rockford residents expressed shock that the government found toxic gas in neighborhood homes but decided against a cleanup.
'I've been raising four kids here,' said Bob Hallman, 45. 'My health's been deteriorating. My neighbor had a brain tumor. They found something in these homes and didn't tell us?'
The short answer is yes.
The longer answer involves government turf battles and differing regulatory views of the same health risk.
An industrial city of 150,000, Rockford became one of America's largest Superfund sites in the 1980s, when solvents were discovered polluting hundreds of private home and business wells.
Today, 10 square miles of the city lie within Superfund boundaries, and regulators believe pollution flows from at least 17 factories and dumping sites. More than 800 homes with solvent-contaminated wells have been hooked up to safe central water

supplies, but the health of 1,885 solvent-exposed people still is regularly checked by the federal government.

After most Rockford homes with polluted wells were given clean water, the federal government transferred the main supervisory role over the Superfund site to Illinois state officials, who so far have decided to let almost all contamination remain beneath Rockford homes.

In August and December 1993, state regulators, responding to growing evidence of vapor threats in other contaminated sites, decided for the first time to check for toxic gas inside homes atop the polluted Rockford plumes.

They found plenty.

In one suburban neighborhood of $ 200,000 homes, one solvent, TCA, was found in the air of all 14 sampled homes, and PCE was in eight of 14 homes.

Two miles away, in a working-class neighborhood of $ 50,000 homes, solvent vapors were found in three of six sampled homes.

(For privacy reasons, state regulators declined to list contamination levels in individual houses.)

In both neighborhoods, toxic gas contaminated homes at levels that usually would trigger EPA cleanups - and always would require cleanups in tough-on-toxins states such as Colorado and Massachusetts.

EPA and Colorado set toxic vapor guidelines that assume people spent almost all their time at home; the idea is to protect invalids and stay-at-home babies. Massachusetts has similar guidelines, but also calls for gas cleanups, even at low pollution levels, whenever possible.

Illinois state officials, however, rely on health guidelines four times more lenient for TCE, two times more lenient for PCE and 150 times more lenient for DCE.

As a result, no cleanups - and no more tests of other homes - ever were ordered.

'Although we found detections of (industrial chemical vapors), we felt these levels were protective of human health,' said Jerry Willman of the Illinois Environmental Protection Agency.

There may be change coming, though. After The Denver Post asked how agencies allowed levels of these vapors to remain unchecked in Rockford, state officials said they now hope to test more homes.

'We're working with U.S. EPA on this issue,' said Virginia Wood of Illinois' environmental agency. 'We're looking back on this site.'

Denver Post January 6, 2002

Despite bill of health, town's threat lingers

ROSCOE, Ill. - The 11000 block of Wild Deer Trail has suffered more than its share of sickness.

At the Brice home, Patti, 42, needed chemotherapy, open heart surgery and a seven-month hospital stay to beat back a near-fatal mix of lupus, hepatitis, thrush and pericarditis. Meanwhile, her 12-year-old twin daughters battled grand mal seizures.

Two houses away, Matt O'Brien, 10, was stricken with non-Hodgkins lymphoma.

Across the street, Wally Houck, 31, developed a fist-sized malignant brain tumor. His cat, Benson, had a brain tumor, too.

The federal Centers for Disease Control and Prevention says these neighbors had one thing in common: Beneath their homes trickled a strong plume of the industrial solvent TCE.

After being questioned by The Denver Post, U.S. Environmental Protection Agency officials now concede that they should check whether these homes are being exposed to toxic gas wafting up from the underground pollution.

They also admitted that their prior investigation of neighborhood pollution falsely concluded that solvent vapors posed no health risk.

'We should assess it. We should get in touch with the Department of Public Health,' said Chris Black of the Chicago regional EPA office. 'Right now, we don't have any money allocated for this. The wheels of government turn slowly.'

Roscoe is an example of a contaminated neighborhood that EPA believed was cleared of any health threat years ago.

But the long-ago environmental work at Roscoe - like decontamination projects at dozens of other similar neighborhoods across the nation - now may have to be re-examined because of new knowledge about toxic vapors.

Two decades ago, no homeowners knew the 11000 block of Wild Deer Trail was polluted.

Many moved to this rural town of 2,100, just seven miles south of the Wisconsin line, to get away from urban trouble. With the quiet of small-town life came a reliance on private home wells for drinking water.

The neighbors on Wild Deer Trail drank whatever flowed through their groundwater.

By the early 1980s, homeowners complained more and more about stinky, foul-tasting water. When the county tested home wells, they found TCE at levels up to 400 times worse than drinking water standards allow. All told, public health officials found 100 homes contaminated with unsafe levels of TCE, TCA and DCE.

An investigation traced the problem a half-mile uphill from the subdivision, where the town's largest employer, the Warner Electric Brake and Clutch Co., leaked a 1,200-foot-wide stream of toxic chemicals from unlined industrial lagoons.

The polluter started giving residents bottled water in December 1983. But many homeowners continued to use their home wells for bathing, not realizing that a typical 10-minute shower exposed them to 30 gallons of solvent contamination. The chemical dose from a single morning shower could equal the dose from two weeks of drinking from the tap.

Plus, homeowners likely were exposed to more toxic gas seeping directly into their homes from polluted groundwater, an EPA computer model now indicates.

Homeowners with contaminated wells eventually were hooked up to a new supply of safe water.

Because residents no longer drank pollution, EPA assumed the health threat was gone. So the agency decided in 1991 to let the vast majority of remaining contamination simply remain in the ground.

That meant a band of pollution, more than one mile long and a quarter-mile wide, lingers today beneath 100 homes. It's one of dozens of 'monitored natural attenuation' plumes, pollution that EPA lets rot underground because the agency believes it would be too expensive to decontaminate.

(Warner Electric, a privately owned company, did agree to pump and treat polluted groundwater near the very end of the plume, after the contamination passed beneath the vast majority of homes. When asked to comment, a company executive hung up the phone on a Denver Post reporter.)

A January 1999 report by EPA engineer Bryan Holtrap concluded that homeowners are not being exposed to toxic gas.

But after The Denver Post asked about evidence of high contamination remaining beneath the neighborhood, Chicago regional EPA officials said the 1999 report wrongly ignored the threat of indoor air pollution. The official who did the 1999 report has left EPA and could not be reached for comment.

Residents said they now want their homes tested for gas.

'I can't say for certain that my brain tumor was caused by the pollution, but I don't think it would be wise to rule it out,' said Houck, a computer worker who now is 38. 'We've had so many health problems here. We were so glad to have the problems with the water solved. Now we should think about the other problems. We should be concerned about the air.'

Denver Post January 7, 2002

EPA home-toxins test 'crude and limited' Widely used computer model often wrong

In the federal government's view, the Hayes family could breathe easy. The Environmental Protection Agency's computer model, which assesses the health threat of toxic gases in thousands of homes across America, said the Hayes' southeast Denver house was safe.

It wasn't.

Air samples demanded by the state last year showed that Loren and Cheryl Hayes, and 1-year-old Jonah, were breathing industrial solvent fumes at levels 17 times worse than health guidelines allow. Their South Leyden Street house now is being decontaminated, along with some 300 others atop pollution leaking from the former Redfield rifle scope factory.

But many environmental experts worry that the health of thousands of other Americans may be jeopardized because regulators often rely on hit-or-miss theoretical calculations rather than directly measuring what's in the air.

Because the EPA's model has repeatedly underestimated toxic gas levels, experts wonder how many homes have been declared safe - when they really aren't.

'Why does EPA keep using a computer model that doesn't work?' asked Edgar Ethington, the Colorado Department of Public Health and Environment official directing the

Redfield cleanup. "With that model, you'd get just as good results flipping a coin. Half the time it's right, and half the time it's wrong.

'I wouldn't want to evaluate someone's home by using that model.'

Even one of the inventors of the computer model, Robbie Ettinger, conceded that his creation appeared to significantly underestimate toxic gas pollution in the southeast Denver neighborhood.

'I can't argue. It looks like you're right,' Ettinger said. 'If you put the numbers in the EPA spreadsheet, that's the reality you get.'

The flaws carry national importance.

The main tool for many

At hundreds of toxic waste sites across the country, EPA's computer model is the main tool many state and federal regulators use to tell whether industrial solvent vapors are seeping into homes and businesses at levels that make people sick.

The EPA admits that it never subjected the model to thorough tests for industrial-solvent pollution, even though the agency has been recommending use of the model since 1998.

State regulators and private consultants in Colorado and Massachusetts repeatedly have questioned the accuracy of the model, noting that it tends to downplay gas exposure and health risks.

Several heavily industrialized states, including Pennsylvania, Michigan and California, concede they've never verified the accuracy of the model, even though they've used it to rule out toxic cleanups of thousands of homes at hundreds of polluted sites.

'I'm not really comfortable with that. I think there needs to be an extensive effort to really validate the model' with testing, said Jeff Crum of the Michigan Department of Environmental Quality, which has used the model for hundreds of neighborhoods since 1997.

'I would not rely solely on the model, but we're doing that. It's a regulatory decision. It's not my decision. Cost is the major impediment to all these evaluations.'

Only six states - Colorado, Connecticut, Kansas, Massachusetts, Oregon and Wyoming - regularly test for toxic gas in homes. A few other states, such as Texas and California, rely on the model but also do occasional testing, usually of dirt outside houses, to estimate indoor gas levels.

The EPA model was created in Colorado as part of the Superfund cleanup of the Rocky Mountain Arsenal northwest of Denver.

In the late 1980s, attorneys warned Shell Oil Co. that its cleanup expense at the arsenal could exceed $ 1 billion. Eager to limit testing costs, Shell had two scientists, Ettinger and Paul Johnson, research whether pollution levels could be estimated inside south Adams County homes without collecting air samples.

In 1991, Johnson and Ettinger announced their computer-based pollution predictor.

For polluters and regulators, the model offered several advantages.

Indoor air tests cost about $ 1,000 each, and homes often require more than one test. If a polluter is responsible for a solvent plume beneath hundreds of homes, it's much cheaper to gauge contamination through a computer model than to collect hundreds of air samples.

The model also lets polluters estimate their environmental damage without alarming potential victims. In an era when corporations fear class-action lawsuits, homeowners never know when an engineer runs a computer model on pollution inside their house.

'People do the model because it's cheap and fast and easy. You can clear 200 (polluted) sites a year without knocking on anybody's door,' Ethington said.

A boiled-down version

The EPA created its own version of the Johnson-Ettinger model in 1998 and posted it on the agency's website for use by state and federal regulators across America.

To make it fast and easy, EPA boiled down the model to 60 variables. Regulators feed in specifics - such as the extent of groundwater pollution - from a local toxic waste site and then let the model calculate whether vapors are a menace meriting decontamination.

For simplicity's sake, the model makes dozens of assumptions.

Many can lead to questionable results.

A few examples: The EPA model assumes everyone lives in a house with a 994-square-foot ground floor, built 61/2 feet below grade and punctured with 126.1 feet of cracks, 0.039 inches wide, in a 6-inch concrete foundation.

The model also assumes that all U.S. homes are equally insulated.

Reality, of course, is different. Homes aren't the same size. They have different insulation, foundations and leaks.

A home with better insulation will tend to store, and expose residents to, more toxic gas than one with less insulation. Toxic gas tends to seep faster into a home with a thinner foundation than assumed in the model.

Consider two neighboring homes on East Missouri Avenue in southeast Denver. Both are atop an industrial solvent plume.

State-monitored air tests showed one house, with three bedrooms and one bath, had no toxic vapor problem. The next house, with two bedrooms and one bath, was contaminated with toxic gas at levels 600 times greater than health guidelines recommend.

The model figured both homes had the same health risk:

None.

EPA's model also makes dozens of other assumptions about outdoor conditions, figuring that neighborhoods in cold Alaska, arid Nevada and humid Florida, for example, are built over identical types of groundwater. Toxic gas often has a tougher time piercing the thick groundwater layers in states with heavier rainfall.

Inventors say the model shouldn't be relied on for detailed information. Instead, they say, it should let regulators take a rough look at whether neighborhoods are toxic enough to merit more study.

'From my experience, it's a reasonable screening tool,' said Johnson, a former Shell scientist who now teaches at Arizona State University. 'You can use it to identify conditions under which you should look at a site more closely. That's what it was intended to be used for.'

But both inventors say their model has been used improperly by some regulators.

'I have seen cases where the model has been misapplied, yes,' Johnson said, declining to discuss specific examples. 'There's not a lot I can do about it. We published the model so people could have a tool (to) use. I really don't have control over how people use it.'

In Massachusetts, regulators used the model to set standards to protect people from toxic gas contamination of their homes.

Three years later, the state Department of Environmental Protection decided to check whether the new standards were working.

They weren't.

According to the state's model, seven neighborhoods were supposed to be free of contamination problems. In fact, indoor air tests showed that four of the seven neighborhoods had buildings that violated state health standards.

Another 28 neighborhoods were supposed to have serious toxic gas contamination. But testing showed that vapors were dangerous only in 15 of those 28.

Most troubling about the Massachusetts study was the fact that the model tended to underestimate toxic gas levels of common industrial solvents.

That created worries across the country that regulators, relying on the model, were proclaiming houses safe when they weren't.

'All models have limitations,' said John Fitzgerald of the Massachusetts environmental protection agency. 'This model is crude and limited.'

Massachusetts officials published their findings in 1996. EPA nevertheless endorsed a largely unchanged version of the model in 1998 and staged conferences urging state regulators to use it.

At the same time, state regulators and private consultants started finding dozens of homes in southeast Denver with toxic gas contamination.

After discovering major solvent leaks from the Colorado Department of Transportation headquarters, 4201 E. Arkansas Ave., and the former Redfield factory at 5800 E. Jewell Ave., regulators soon began testing homes above the contamination for toxic gas.

They found plenty - more than 380 homes with vapor contamination worse than guidelines allow.

The two neighborhoods, which became the largest vapor decontamination projects in America, allowed researchers to compare the predictions of computer models with indoor pollution results.

There were big differences.

A private consultant for CDOT, relying on a less refined but similar computer model that's routinely used in Arizona and Arkansas, found inaccurate results:

In a sample of 153 Denver homes, the model underestimated toxic gas concentrations in four of five homes. In some homes, the model predicted gas pollution 100 times less than actual measured levels.

The lesson? Use testing, not the computer model, 'to establish the extent of impacts and determine the need for mitigation,' said a report by David Kurz, an engineer for CDOT consultant EnviroGroup.

In south Adams County, the Hamilton Sundstrand company used the EPA computer model and actual air testing to see whether toxic gas was leaking into homes from a factory pollution plume.

The model said no homes were in danger. Direct air tests proved the model wrong.

In fact, 54 homes exceeded health limits for toxic gas.

'Do I trust the model? No,' said Scott Moyer, senior project manager for Hamilton Sundstrand. 'I don't think a lot of people at EPA fully trust the model either. There's no replacing an actual sample from a home. You just don't know what you are going to find until you get out there.'

In the neighborhood outside the former Redfield plant, the EPA model generally predicted that no threatening toxic gas levels would be found inside homes unless groundwater pollution exceeded 100 parts per billion.

Fewer than three dozen homes are atop groundwater pollution worse than that.

Yet actual air tests showed that more than 310 homes contained unsafe toxic gas levels.

'It's a poor model. I would never use it,' said Ethington of the state Health Department. 'The model does not reflect physical reality.'

The Hayes family of South Leyden Street agreed. If regulators had relied on the EPA model to tell whether home air was safe, regulators never would have tested the Hayes house - or found the contamination problem. In fact, the model concluded that the house wasn't even contaminated.

'I'm glad they tested,' said Cheryl Hayes, speaking outside her home while her 1-year-old son napped inside. 'We feel a lot safer.'

Denver Post January 6, 2002

Home deadly home: Toxins in air Regulations fail to protect U.S. residences from gases

Patricia Brice nearly died from lupus - after her twin daughters convulsed with seizures. Ralph Miller woke up paralyzed down his right side. While Bob Gillette battled an inoperable brain tumor, his mother died of liver cancer.

More than 4,900 people in a five-state federal study suffered strokes, anemia and urinary tract disorders, including prostate trouble, at rates double or triple the national average.

All these people lived in homes polluted with toxic gas.

Beneath dozens of neighborhoods flow streams of industrial chemicals, oozing from local dry cleaners, auto shops and factories. The pollution was supposed to be safe underground as long as people didn't drink it.

But now thousands of Americans, including hundreds in Colorado, face a frightening fact: They've been breathing it.

The contamination became gas.

It leaked inside their living rooms.

Environmental regulators often did little or nothing. Even today, after two decades of scientific warnings, few state agencies are doing much about the health threat.

The federal agency that's responsible for protecting people from environmental hazards instead has downplayed and even disregarded the problem. The U.S. Environmental Protection Agency's main computer model, which judges whether it's safe to breathe inside thousands of polluted homes, often underestimates the threat. And the EPA relied on false scientific information in dropping a planned review of toxic gas in homes around the nation's worst hazardous-waste sites.

EPA also admits that it ignored the threat of toxic gases in the 1980s and 1990s while deciding how dozens of polluted neighborhoods would be cleaned up. The agency now is re-examining cleanups that were supposed to be completed.

That just happened in Adams County.

After 12 years of chemical cleanups, managers of the Hamilton Sundstrand factory believed most work was done. But residents of the Perl Mack neighborhood worried that toxic gas still leaked into their homes.

An official EPA statement in August 2000 dismissed the threat: 'Based on past groundwater monitoring data, EPA does not expect to find dangerous levels of (gas) in indoor air.'

Then the factory finally tested the neighborhood for toxic gas.

And found it.

54 homes decontaminated

Since November 2000, 54 homes have been purged of health-threatening levels of chemical vapors.

'Based on EPA's guidance, we didn't think we'd find anything. But then we went in and tested and we found something,' said Scott Moyer, project manager for the Hamilton Sundstrand factory. 'It's a new issue. It's the progress of science.'

There's probably more bad news to come.

It's not just that many polluted neighborhoods haven't been checked for toxic gases.

It's that EPA doesn't even know how many neighborhoods the agency has checked.

It may well be a big number.

In an EPA program that oversees major cleanups of still-operating factories, fewer than half of the 1,714 worst factories have been screened for gas. Managers of EPA's Superfund program, which directs the nation's biggest hazardous-waste projects, concede they are unsure how many of the 1,220 cleanups have been screened for toxic gas.

'If anyone at EPA says they thought 10 years ago about doing this, they're not very believable,' said John Frisco, who supervises EPA Superfund cleanups in New York and New Jersey. 'Maybe it's a Pandora's box.'

In the past, regulators found toxic gas in homes but refused to make the polluters spend $ 2,000 or so per house to clean it up.

Infrequent checking

Also, at least 13 states either never check or rarely check neighborhoods for toxic gas. They are Alabama, Delaware, Georgia, Indiana, Kentucky, Mississippi, New Mexico, North Carolina, South Carolina, Tennessee, Utah, Virginia and Wisconsin.

'It's scary to see what's going on in other states,' said Rob Elder, a hazardous-waste cleanup manager in Kansas, one of the few states that aggressively protects homeowners from vapor pollution.

National EPA managers defended their handling of the issue. They said EPA has been issuing advisories telling state regulators to check polluted neighborhoods for toxic gas, and noted that the agency will offer training seminars to state and federal regulators during a national hazardous waste conference on Jan. 17.

'I think Americans can sleep soundly at night knowing that EPA is concerned with this issue,' said EPA Assistant Administrator Marianne Horinko, the agency's top national hazardous-waste regulator.

Fifty years after the great manufacturing boom of post-World War II America, taxpayers have grown accustomed to paying hundreds of millions of dollars to clean up Superfund sites and other toxic leaks. But now a new environmental bill is coming due.

It's from the chemicals that stripped grease from the gears of the Industrial Revolution.

The manufacturing of metal parts relied on vast quantities of oil and gunk. To remove this grease from steel and aluminum - and to lift dirty spots from suits and dresses - engineers developed a series of chemicals called chlorinated solvents.

With an alphabet soup of names including TCE, PCE and DCE, these solvents were cheap, easily manufactured and popular.

At its peak in the 1970s, the industry used more than 2.4 billion pounds a year of just the three most popular solvents, TCE (metal degreaser), tetrachloroethylene (dry cleaning spot remover) and carbon tetrachloride (refrigerant component and degreaser).

That was 10 pounds a year of solvents for every man, woman and child in America.

But all those chemicals did more than combat grease.

They also made people sick.

Exposure to many of these solvents at high levels, or over a long period, hurts the liver, kidneys and nervous system, medical studies show. Many of these chemicals also are linked to cancer, especially of the liver and kidneys.

The government tried to protect workers with indoor air standards in factories. But the chemicals often didn't stay in factories.

The problem: All these solvents were dumped in thousands of places across the country.

Today they are the most common chemical pollutants in America, turning places such as Love Canal, N.Y., and Woburn, Mass., setting of the movie and best-selling book 'A Civil Action,' into front-page national news.

Many states now have dozens, or even hundreds, of little-publicized streams of underground toxins.

The government allowed many of these plumes to remain unchecked beneath homes.

Through the 1970s and '80s, the EPA instructed regulators that the main risks from solvent contamination came from drinking polluted groundwater or eating polluted dirt. EPA's rules presumed that low levels of pollution wouldn't contaminate homes with toxic gas.

EPA was wrong.

In three Denver neighborhoods, five years of tests found houses with unsafe levels of invisible and odorless gases from underground industrial plumes. More than 425 homes outside the Redfield rifle scope factory, Colorado Department of Transportation headquarters and Hamilton Sundstrand factory have been decontaminated.

Colorado now has cleaned more homes of vapors than any other state.

That's not because Colorado is more polluted than anywhere else, officials said. It's because Colorado is one of the few states that regularly check for toxic indoor vapors.

'There's absolutely no reason for us to find vapor trouble in Colorado more than highly industrialized states,' said Howard Roitman, chief hazardous waste regulator for the Colorado Department of Public Health and Environment. 'The only reason we find it more is that we look for it. Other places don't test like we do.'

In fact, only Colorado, Connecticut, Kansas, Maine, Massachusetts, New York, North Dakota, Oregon, Vermont, West Virginia and Wyoming regularly test polluted neighborhoods for toxic gas.

Many of the biggest states - especially heavily industrialized areas such as Louisiana, Michigan, Ohio and Pennsylvania - take the federal government's advice. They skip actual tests of air and instead use an EPA computer model to estimate whether it's safe to breathe inside a home.

Though EPA long has advocated direct testing of indoor air for another toxic gas, radon, the agency takes a different tack when checking homes for contamination by carcinogenic industrial solvents.

The agency's published advice on solvent gas pollution is: 'EPA recommends that site managers use a screening level model developed by Johnson and Ettinger to evaluate exposure.' Several state officials say they now run the model dozens of times a year without ever testing air inside homes to verify the model's accuracy.

But the model can be strikingly wrong.

At the nation's largest toxic gas cleanup site, in the southeast Denver neighborhood outside the former Redfield rifle scope factory, the EPA computer model predicted that fewer than three dozen homes would be beset with health-threatening levels of industrial solvent gas.

In fact, air tests inside homes proved that more than 300 homes required toxic gas decontamination. In some cases, actual pollution inside southeast Denver homes was 200 times worse than the government model predicted.

Robbie Ettinger, one of two inventors of the EPA model, ran data from Redfield through his own computer at the request of The Post. He confirmed that the EPA formula underestimated home pollution there.

Nevertheless, EPA's Superfund program, which regulates most of the nation's worst toxic sites, continues to rely on the model to predict indoor air pollution. It's rare for the agency to take air samples in homes. Air tests usually cost $ 1,000 each.

'This indoor air issue is not a new thing,' said David Lown, an engineer for the North Carolina state Superfund section. 'EPA has brought it up. But EPA doesn't quite know what to do about it. I don't know what to do about it.'

Not a new subject

EPA has known for decades that toxic gas could pose a threat in the home. The health risk from vapors was a main reason why then-President Jimmy Carter approved the emergency evacuation of 950 Love Canal families from 1978 to 1980.

A 1978 government report on Love Canal noted that liquid pollution was becoming gas inside basements and 'resulting in hazards to health.'

National fears over Love Canal led Congress to pass the Superfund law, one of the world's best-known pieces of environmental legislation.

But Love Canal's lesson about toxic vapors has since gone unheeded by EPA, which repeatedly has overlooked - or dismissed - the same threat at other polluted sites across the country.

A prime example is the BKK Landfill of West Covina, Calif., where 19 homes were evacuated in 1984 after public utility crews found explosive levels of methane gas in backyards.

While testing inside homes for methane vapors, regulators also detected vinyl chloride gas, a carcinogen, at concentrations 900 times worse than what the government says is safe. Vapors from four other industrial solvents were detected, some at levels up to 60 times worse than health standards.

The BKK Landfill case was widely publicized, and scientists at the time warned that similar vapor threats could be found at other polluted sites across the country.

EPA didn't heed the warnings.

Though the agency did order BKK to decontaminate the landfill's edge, cleanup standards were so loose that residents were allowed in 1984 to reoccupy homes that still could have been polluted with unsafe levels of toxic industrial gas, records show.

Still there

Today contamination from the same BKK Landfill continues to seep 10 feet below dozens of other homes in West Covina. But 17 years after the first evacuations, none of those homes has been tested for indoor air contamination.

In response to Denver Post questions, Kathy Baylor, an EPA hydrologist working on the BKK Landfill cleanup, said, 'It's definitely something we'll look into. We're looking at what happened in Colorado, and it definitely gave us pause here.'

Other states have tested for toxins, but disregarded findings that residents' health was at risk.

In the central Missouri town of Macon, Ralph Miller lived the past 30 years downhill from the Toastmaster appliance factory. After the company admitted that its plume of industrial chemicals, especially TCE, flowed toward Miller's property, his home was tested in May 1996 for unsafe vapors.

At the time, Missouri regulators said their health standard for vapor exposure was 2.6 parts per billion of TCE.

Miller's home tested at 26 parts per billion, 10 times the health standard.

So Missouri weakened its health standard tenfold.

That meant no cleanup of Miller's polluted home.

Rules different elsewhere

If Miller lived in many other states - Colorado, Massachusetts or California, for example - his two-bedroom, one-bathroom home would be detoxified.

Missouri officials voiced no regrets.

'It was borderline, so we didn't do it,' said Nancy Priddy, who supervised the initial Toastmaster cleanup for the state Department of Natural Resources. 'That's about all I can say about it.'

That's little consolation to Miller.

'I don't feel OK. I woke up one day in January and my whole right side was paralyzed,' said Miller, 75, a retired salesman. 'I don't know why I'm paralyzed. The doctors can't tell me why I'm paralyzed. I haven't had a stroke or anything like that.

'The state came in here and told me my air is fine. I don't know what's going on. Do you think the air is why I'm paralyzed?'

Despite story lines in movies such as 'Erin Brockovich,' medical experts say it's difficult to blame any one person's health woes on home exposure to industrial chemicals. That's because cancer strikes so many people, and many of the afflicted smoke, maintain poor diets and receive heavy chemical doses at work.

Still, there is no dispute that industrial solvents have hurt and even killed people.

Scientific studies long have linked chlorinated industrial solvents to neurological damage, as well as liver, kidney and heart woes.

In the worst cases of on-the-job exposure to solvents - often when workers scrubbed the insides of industrial tanks for long periods with degreasers - victims suffered severe dizziness and vomiting before death.

No one at home faces such high concentrations of solvents. But the federal Centers for Disease Control and Prevention say long-term exposure at lower levels of pollution also makes people sick.

Cancer looms large. Vinyl chloride, a component of PVC pipes and breakdown product for several other chemicals, is a known human carcinogen. And the federal government says other solvents, such as tetrachloroethylene dry-cleaning fluid, or PCE, are probable human carcinogens.

The cancers most often associated with solvent exposure are leukemias, especially for children, and cancers of the brain, bladder, colorectal system, lymph nodes, liver, pancreas and stomach, the CDC reports.

The CDC began regular health checks in 1988 on 4,900 people in 15 neighborhoods in Arizona, Illinois, Indiana, Michigan and Pennsylvania where home drinking water supplies were contaminated by TCE. Many of those people also breathed TCE seeping through their home foundations and vaporizing from contaminated water as they showered and washed dishes.

Children under 9 suffered speech impairment, deafness, anemia and urinary tract disorders at rates significantly exceeding the national average, the CDC found.

Adults suffered from anemia, diabetes, deafness, hypertension, kidney disease, liver problems, skin rashes, speech impairment, strokes and urinary disorders at rates significantly exceeding the national average. Immune system disorders, such as lupus, have been linked to solvents.

One of those in the CDC study is Bob Gillette.

Illinois case

In Rockford, Ill., the Rust Belt town that once called itself the Screw Capital of the World, Gillette and his mother, Mary Faith Gillette, lived for 32 years across the street from a metal parts manufacturer.

The factory, Swebco Manufacturing, turned out to be one of 17 sources of industrial solvent plumes that polluted home water supplies and led 10 square miles of the city to be classified as a Superfund cleanup site, officials said.

In 1992, at age 44, Gillette blacked out and was rushed to a hospital, where doctors found an egg-sized tumor in the right frontal lobe of his brain.

He has inoperable brain cancer.
'I've got a very rare type of tumor, and the doctors at the Mayo Clinic told me they think it had to do with odors from factories,' said Gillette, a former Swebco worker who said his company made parts for Denver-based Gates Rubber Co. 'I've got a 30 percent chance of surviving 10 years.'
His mother, a non-drinking hospital worker, died in 1996, at age 68, of liver cancer, a malady that has been linked to solvent exposure.
Illinois state regulators tested Gillette's southeast Rockford neighborhood and found five types of toxic gas in several homes. In one house, levels of one gas were 75 times worse than EPA health guidelines.
EPA let Illinois state government direct the environmental reviews. State regulators ordered no home gas cleanups.
They said the national health guidelines, designed to protect invalids and newborns who spend much time at home, are too stringent.
'We assumed one-third of your time is spent in a rec room. How many people spend one-third of their time in a rec room? I doubt very many,' said Mike Moomey of the Illinois Department of Public Health.
After Denver Post inquiries, however, Illinois state officials said they will consult with federal EPA regulators about the best way to check for toxic vapor inside Rockford homes.
Post questions also led EPA to call for toxic gas checks in Roscoe, Ill., where Patricia Brice and her twin daughters suffered a string of health woes after the town's largest employer, Warner Electric Brake and Clutch Co., leaked a 1,200-foot wide stream of an industrial chemical into their rural subdivision.
'They told us not to drink the water, that it was suitable for washing and bathing, but not for cooking or ingesting,' Brice said.
It was bad advice.
Toxic gas exposure from washing and bathing actually can exceed exposure from drinking polluted water.
Though the pollution beneath her neighborhood was severe - the plume contained TCE, TCA and DCE at levels up to 400 times worse than drinking water standards - regulators never ordered the polluter to test anyone's home air for leaking toxic gases.
In 1985 and 1986, Brice's 12-year-old daughters suddenly were stricken with a series of non-epileptic grand mal seizures.
Then in 1992, at age 42, Brice was stricken with lupus, an immune-system disorder that attacks body joints and internal organs. The 5-foot-7 Brice plunged from 135 pounds to 92 pounds in just six months.
She was stricken with major skin rashes, painful fingernail cracks and a severe case of thrush, an inflammation of the esophagus that made it nearly impossible to eat solid food.
Then she got hepatitis.
Brice was admitted to the hospital, where she developed tuberculosis.
She required open-heart surgery to combat a severe case of pericarditis, a painful infection of the heart cavity.
Doctors prescribed chemotherapy. She lived six months in the hospital.

'I was a single mom,' said Brice, an admissions worker at a local junior college. 'I lost the ability to walk. I couldn't work. I was throwing up. I was catheterized. I had the children at home, and we had to go on food stamps.

'With the girls, we went to the Mayo Clinic. I wanted to know why this happened. I wanted to know why for myself, too. The doctors never would tell me what caused all this. But they would not say, 'No, it's not the pollution.'

'I think it's the pollution. We've had such sickness. I think it's the pollution.'

Like the Gillette family, the Brices are part of the CDC study that found some sicknesses at double and even triple the national rates in their neighborhoods.

Still, regulators allowed the vast majority of pollution to remain beneath the homes of Brice and her neighbors.

In response to questions from The Denver Post, Chris Black of the Chicago regional EPA office said regulators shouldn't ignore the risks of toxic gas around the Brice home. 'We should assess it,' Black said.

Denver Post January 6, 2002

A state-by-state look States have responded in different ways to the threat of toxic gas in homes.

Some screen neighborhoods using an Environmental Protection Agency computer model of questionable accuracy. Here is a national roundup.

ALABAMA

In Montgomery, one of America's strongest solvent plumes flows at least a half-mile from the state transportation department. Though the TCE curls less than 20 feet below 325 homes, no house has been tested for toxic vapors.

'Our staff certainly did a lot of talking about indoor air, but, no, we have not tested for indoor air,' said Clark Bruner, spokesman for the Alabama Department of Environmental Management. 'We're just stretched.'

ALASKA

At the River Terrace Mobile Home Park in Soldotna, tenants complained in 1992 about barrels behind a dry cleaner, some 250 feet from the Kenai River. 'It got forgotten about for a few years,' said Department of Environmental Conservation official Rich Sundet.

In 1996, though, a contractor found up to 4,000 parts per billion of PCE, a suspected carcinogen and common dry-cleaning chemical. Outside an adjoining fish-freezing plant, regulators found high levels of vapors in the soil.

'We told (the fish plant owner) to look at air monitoring for OSHA violations,' Sundet said. 'But they haven't done it.'

ARIZONA

Arizona relies on a cruder computer model than the EPA's. State government hasn't tested homes for toxic vapors, even though 100 homes near a Phoenix Motorola factory are above a plume with up to 5,200 parts per billion of TCE.

'Testing could be a good strategy if people would spend money for that,' said Arizona Department of Health Services official Will Humble. 'In the end, it's what an environmental agency gets out of the responsible party.'

ARKANSAS

Regulators use a rough version of the EPA computer model. 'It's expensive to sample air,' said Brian Wakelyn of the Department of Environmental Quality. 'We use the model to see if we need to look further.'

State government has not required a cleanup.

CALIFORNIA

Home to the nation's largest collection of hazardous-waste sites, California has an inconsistent toxic-gas record. Seventeen years after leaking gases from the BKK Landfill forced out 19 West Covina families, officials haven't checked for vapors in many other homes above pollution plumes.

In Oakland, pollution forced crews to change construction plans for the Cypress Freeway, but regulators didn't test air inside homes there.

'It's rare for us to test inside a home,' said Ron Baker of the Department of Toxic Substance Control. 'Because of all the typical chemicals people have in their homes, you just don't know if what you're finding is coming from a plume.'

COLORADO

No state has rid more homes of toxic vapors than Colorado. Outside the Colorado Department of Transportation headquarters and the former Redfield rifle scope factory in southeast Denver, and the Hamilton Sundstrand factory in Adams County, more than 425 homes have been decontaminated.

State officials, skeptical of the EPA model, routinely test air inside homes atop pollution.

CONNECTICUT

Connecticut tests for gas routinely but rarely finds it.

'We have a lot of clay in the soil here, so we don't see vapor issues often,' said Steve Gaura of the Department of Environmental Protection. 'But it's better to look at it, just in case.'

DELAWARE

State regulators said they're concerned about industrial wastes dumped at Dover Air Force Base, home to 1,000 military workers, that leaked into surrounding residential and commercial areas.

This is 'a new issue for us. Most work has been done in Colorado,' said Alex Rittberg of the Department of Natural Resources and Environmental Control, which hasn't tested for toxic gas.

FLORIDA

State officials say they do some computer modeling but few cleanups. Florida doesn't require vapor checks. 'I'm not aware of any routine air monitoring that is done,' said Merlin Russell, a geologist with the state Department of Environmental Protection.

GEORGIA

'We really don't have a set procedure or policy or rules' for indoor toxic gas, said Tim Cash of the Georgia Division of Environmental Protection.

Outside the Aramark Uniform Services factory in Thomasville, a 600-foot plume of solvents and dry-cleaner chemicals trails 20 feet below several dozen homes, said Georgia environmental compliance officer Larry Kloet. Another major plume with more than 20 chemicals flows from the Crymes Landfill below at least 60 homes and businesses in Tucker.

HAWAII

Though this state has solvent plumes, mostly on military bases, officials said none threatens residents above. 'We don't have industrial facilities like the mainland,' said Gina Ling of the Hawaii Department of Health.

IDAHO

At the Boise Town Square shopping mall, state officials found a strong solvent plume beneath the parking lot. It poses no health threat to homes or businesses, said Tim Teeter of the Idaho Department of Environmental Quality.

ILLINOIS

In industrial Rockford, state officials found toxic vapors inside homes, but regulators disregarded them. In Roscoe, federal regulators never checked for vapors in a neighborhood where high levels of solvents contaminated home wells. 'There are usually less than six sites a year sampled. We haven't had to have one (decontaminated) yet for solvents,' said Mike Moomey, toxicology chief for the Department of Public Health.

INDIANA

'We probably haven't looked for it in the past,' said Bruce Oertel of the Department of Environmental Management. 'We're feeling our way around to figure out what's a safe level. We don't have in-house expertise on this issue.'

IOWA

Regulators say homes are safe. 'We don't have regulations on this, but we do test if we have contaminated groundwater in a residential area,' said Stu Schmitz of the Land Quality Bureau.

KANSAS

Under an aggressive toxic-gas program, 20 homes in Wichita were tested soon after underground pollution was found. All tests proved negative.

'In areas where groundwater is shallow and there's the possibility of vapors going in basements, we require vapor tests,' said Rob Elder, with the Bureau of Environmental Remediation. 'I'm the person who has to stand in front of a crowd full of people saying, 'Your house is over a plume of TCE and it's not a concern.' We'd rather be safe than sorry.'

KENTUCKY

Though Kentucky has no regulations for cleaning up toxic gas, state officials checked a Beaver Dam apartment complex near a Thomas Industries TCE plume. No unsafe levels were found, officials said. 'It's definitely an emerging issue, and we're learning more about it,' said Dale Burton, hazardous-waste supervisor for the state.

LOUISIANA

Regulators often use the EPA computer model, which is 'extremely conservative,' said Carey Dicharry of the Department of Environmental Quality.

MAINE

Maine tests homes for indoor air trouble from solvents. Regulators have found no problems.

MARYLAND

State officials rely on the EPA computer model.

'We really haven't had an indoor air issue,' said John Verrico of the Department of the Environment. 'If there are no wells in the area, it's not much of a concern.'

MASSACHUSETTS

Massachusetts is one of the top states for testing and cleaning up toxic vapors. Since state regulator John Fitzgerald found solvent gas in Hillside Elementary School in 1988, Massachusetts has decontaminated sites in 50 neighborhoods.

'I don't think we have more pollution here than anywhere else. We just systematically looked at all of our sites,' Fitzgerald said.

MICHIGAN

Since 1997, Jeff Crum and the Department of Environmental Quality have used the EPA computer model - but no tests - to estimate toxic gas levels.

'I'm not really comfortable with that,' Crum said. 'I would not rely solely on the model, but we're doing that. It's a regulatory decision. It's not my decision. Cost is the major impediment.' MINNESOTA

'If there's a residence at risk, we do sampling,' said Hans Neve of the Pollution Control Agency, which has ordered decontamination around five factories and gas stations. 'We'd rather know than not know.'

But the state hasn't tested for toxic vapors outside the Washington County Landfill northwest of St. Paul, where leaking solvent pollution forced 100 homes to be hooked up to city water supplies.

'My guess is that the air is safe,' said Ingrid Verhagen of the pollution agency.

MISSISSIPPI

Jerry Banks, chief of the state's hazardous-waste agency, said he's unaware of any sampling. 'There aren't any real good models that make it simple and easy. The techniques are in their infancy.'

MISSOURI

When state officials found vapors exceeding health standards in a home outside the Toastmaster factory in Macon, they changed the standards, saving the company a

cleanup. The home's owner, Ralph Miller, 75, said he has an unexplained paralysis on his right side.

Regulators have become less aggressive because 'the staff that we had found better-paying jobs and left,' said Robert Gibson of the Department of Health. 'We never could find people to replace them. We lost our budget.'

MONTANA

No known industrial solvent plumes pose vapor problems for homes, state officials said.

NEBRASKA

State regulators said they checked for toxic gas near Mead, in Omaha and in Ogallala and found no significant health threat.

NEVADA

Officials checked homes in Sparks after discovering a plume from a railroad yard but found no unsafe levels of toxic gas. 'When there's a question, we go in and collect indoor air samples,' said Allen Biaggi of the Department of Conservation and Natural Resources.

NEW HAMPSHIRE

Regulators have checked several old sites and are reviewing recently discovered pollution. 'We're gaining some experience, but we don't have it nailed,' said John Regan of the Department of Environmental Services.

NEW JERSEY

The state with the most Superfund sites relies on the EPA computer model. State officials said they rarely find risky levels of gas.

'We don't have state regulations, and we don't have proposed state regulations,' said Loretta O'Donnell of the state Department of Environmental Protection, which 'will be looking at this issue.'

NEW MEXICO

Deep groundwater tables mean vapors in homes above usually don't threaten health, said Cathy Tyson of the Environment Department.

NEW YORK

New York aggressively fights toxic gas. The notorious Love Canal toxic dump was cleaned up mainly to combat chemical vapors, and several other polluted sites across the state, including the Stanton Dry Cleaners in Great Neck, were decontaminated.

NORTH CAROLINA

Major pollution plumes flow from the Marine Corps' Camp Lejeune base and the Channel Master factory. State regulators say they're worried but concede that they're new to the toxic-gas issue.

'We don't have strong regulations to guide us or a strict protocol to go out and sample the air of homes,' said Ted Bush, with the Department of Environment and Natural Resources.

NORTH DAKOTA

Polluted neighborhoods are regularly tested for toxic indoor gas. 'All potential risks need to be addressed,' said David Glatt, head of waste management.

OHIO

This heavily industrialized state doesn't test air but recently started using the EPA model to review polluted neighborhoods.

'So far, we're up to the level of sophistication that we feel comfortable with,' said Stephanie Beak of the state's environmental protection agency.

OKLAHOMA

State regulators have used tests or the EPA model in 17 neighborhoods. 'If modeling indicates that there's no problem - we think the model is extremely conservative - then we don't do sampling,' said Saba Tahmassebi of the Department of Environmental Quality.

OREGON

State regulators said they've screened for toxic gas for years, especially around dry cleaners.

'We try to be very conservative,' sampling in all of the last 12 sites evaluated, said Mike Poulsen, a toxicologist for the Department of Environmental Quality.

PENNSYLVANIA

Polluters, not the state, estimate gas pollution with the EPA model.

'Then we review it to make sure it meets our cleanup standards,' said Department of Environmental Protection spokesman Jeff McCloud. 'And then they have to perform the cleanup.'

RHODE ISLAND

In 1996, state officials assumed it was riskier to breathe vapors than to drink contamination. Many environmental experts say other states should do likewise.

Still, the state allows 10 times more DCE pollution than Colorado regulators found to be safe.

SOUTH CAROLINA

State regulators, who just started considering the vapor threat, worry about two pollution plumes that merge underground west of Columbia. TCE in one home's well was 200 times above federal standards, and there are hundreds of homes above the plumes.

'Our primary concern is the drinking water, but we have been looking at the vapor issue,' said Keith Lindler of the Department of Health and Environmental Control.

SOUTH DAKOTA

At the state's biggest solvent-pollution site, Ellsworth Air Force Base near Rapid City, a shallow, 4-mile plume flows beneath fewer than a dozen houses. Officials say they don't believe those homes were tested for toxic gas.

'Most of the complaints were about the wells,' said Don Rosowitz of the Department of Environment and Natural Resources. 'To my knowledge, that issue of vapors has not come up.'

TENNESSEE

State government has no regulations on vapor contamination and is 'waiting for EPA to come up with a draft policy on this,' said Mike Apple, director of hazardous waste management. He said two neighborhoods may be at risk, but he declined to name them.

TEXAS

Officials rarely sample air in homes. Instead, they often test soil for gas. With the EPA model, they then estimate indoor threats, which are 'always assessed and explored in Texas,' said Ata Rahman, with the Natural Resource Conservation Commission.

Polluted sites recently screened and cleared include a Dow Chemical plant in Freeport and Kelly Air Force Base in San Antonio.

Federal regulators in Texas, who handle the most severely polluted sites, 'don't like to go into a home,' said Myron Knudson of the Dallas regional EPA office. He said some people, sensing easy money, claim 'fine china was destroyed and things were stolen.'

UTAH

Utah has no regulations for toxic gas problems, such as the one near Bradshaw Auto Parts in Provo.

'I'm really not sure how we're going to deal with it. We don't have anything to look just at vapors,' said Brad Johnson of the Department of Environmental Quality. 'What do we do next? That's an excellent question.'

VERMONT

State officials said their regular tests uncovered health threats at least a half-dozen times. 'If we're evaluating a particular release from something like a dry cleaner and we've got basements nearby, we always ask for tests,' said George Desch of the Department of Environmental Conservation.

VIRGINIA

'We do plan to look at it,' Debra Miller, with the Department of Environmental Quality, said of the toxic-gas problem. 'But we haven't figured out yet about how we'll do it. We've heard some states do air sampling, and others use a model. We're leaning toward modeling.'

WASHINGTON

With the discovery of toxic-gas trouble in Tumwater and a Seattle industrial area, state environmental officials adopted new vapor regulations and rely heavily on the EPA model.

'It's quite an issue now,' said Pete Kmet of the Department of Ecology. 'Vapors coming off groundwater and getting into homes is a relatively new issue for us. We may have to take another look at some older sites.'

WEST VIRGINIA

Regulations require polluted neighborhoods to be checked for toxic gas. State officials recently found TCE flowing from the Allegheny Ballistics Lab. No one lived above the pollution.

WISCONSIN

A bank, considering a loan on the Presidio Square Apartments in north Milwaukee, tested for toxic gas and found it.

'It's the first site I've come across with this issue,' said Andy Boettcher of the Department of Natural Resources. 'Apparently there was a midnight dumper, and some apartments were built atop this site. Now there is a groundwater plume a half-mile long, at least.'

The apartment complex will be decontaminated. Wisconsin hasn't looked for problems elsewhere.

WYOMING

'It's really a complicated issue. In the last three years, we've become more aware of it,' said Jerry Breed of the Department of Environmental Quality, which has used a computer model and direct testing, and found no cause for vapor cleanups.

The Denver Post February 7, 2002

EPA review finds 'problem' with toxic-gas model

Relying on U.S. Environmental Protection Agency advice, three states adopted toxic-gas pollution standards so lenient that they often fail to protect public health, an EPA scientist has found.

All three states - Connecticut, Massachusetts and Michigan - based toxic-gas regulations on a controversial EPA computer model. A Denver Post investigation last month found that the model often underestimates the health threat of toxic gas leaking into homes from underground pollution plumes.

Though Colorado regulators have criticized the model as inaccurate and unreliable, state and federal regulators elsewhere have used the model to rule out indoor-air cleanups of thousands of homes and businesses.

In a new review made public last month, an EPA hydrogeologist found that Michigan's model-based regulations failed to detect unsafe levels of toxic gas in homes 86 percent of the time. Connecticut's failure rate was 75 percent, and Massachusetts' was 36 percent.

'It means they falsely concluded that someone's air was safe,' said Helen Dawson, with the EPA's Denver regional office, who did the study. 'There's a problem here.'

The scientist's finding was especially troubling because national EPA officials had hailed Connecticut, Massachusetts and Michigan as three of the top states in combating toxic-gas threats. It raises concerns that these states may have exempted neighborhoods from cleanups that actually needed decontamination projects.

Prompted by Denver Post reports, the EPA's national ombudsman office has launched an investigation into the agency's use of the computer model.

Toxic gas becomes a threat when vapors from underground industrial solvents, leaking from factories, dry cleaners and auto shops, seep into a home above. Several toxic gas chemicals have been linked to cancer, and others are blamed for a host of other ailments, including liver, kidney and central nervous system damage.

National EPA managers who urge others to use the model declined to discuss the new EPA review - or whether they still will endorse the state regulations in Connecticut, Massachusetts and Michigan.

'We are in the process of reviewing Helen Dawson's presentation, as well as other information, and will take appropriate steps to update and refine our guidance,' agency spokesman Dave Ryan said in a statement.

The EPA has been advising state and federal regulators since 1998 to use the computer model, which estimates toxic-gas concentrations inside homes based on the amount of groundwater pollution beneath homes.

The model was invented by Shell Oil Co. employees Paul Johnson and Robbie Ettinger during the company's Superfund cleanup of the Rocky Mountain Arsenal in Colorado.

As part of The Post's investigation last month, Ettinger applied the EPA version of his computer model to the Redfield rifle scope factory in southeast Denver and conceded that it appeared to significantly underestimate toxic-gas pollution there.

The model projected fewer than three dozen Redfield-area homes would need decontamination; in fact, air tests showed more than 310 homes contained unsafe toxic-gas levels.

Nevertheless, that same EPA computer model remains the main tool many state and federal regulators use to tell whether industrial solvent vapors are seeping into homes and businesses at levels that make people sick.

Michigan regulators have said they used the model, and model-based pollution standards, to decide that cleanups were unnecessary in hundreds of polluted neighborhoods over the past five years.

The EPA admits that it never subjected the model to thorough accuracy tests for industrial-solvent pollution. On its website, the EPA said checks on the model haven't been conducted 'due to the paucity of suitable data.'

State regulators and private consultants in Colorado and Massachusetts repeatedly have questioned the accuracy of the model, noting that it tends to downplay gas exposure and health risks.

Several heavily industrialized states, including Pennsylvania, Texas and California, concede they've never verified the accuracy of the model even though they've used it to rule out toxic cleanups of thousands of homes at hundreds of polluted sites.

Colorado regulators say the model is so unreliable that they believe it's best to collect actual air samples inside homes instead of using a computer to estimate pollution.

Connecticut regulators did not return phone calls for comment.

In Massachusetts, Paul Locke of the state Department of Environmental Protection said, 'I don't disagree with the direction of the study, which would indicate that the current Massachusetts standards may underpredict the indoor air concentrations of some chemicals.'

He noted that a 1996 study by two state regulators also concluded that the model tended to underestimate toxic-gas levels of common industrial solvents. One study author, John Fitzgerald, called the model 'crude and limited.'

Because of those findings, Massachusetts now is drafting much tougher pollution standards to combat toxic-gas threats.

And Michigan?

'Oh, boy,' said state regulator Jeff Crum, when told of the results of the EPA review. He said the EPA findings concerned him but that he needed to study the analysis more before commenting further. Mark Obmascik can be reached at Mobmascik@denverpost.com or 303-820-1415.

Study results

Here is how Helen Dawson, an Environmental Protection Agency scientist based in Denver, concluded that toxic-gas standards in three states were too lenient.

As part of a national hazardous-waste conference last month in Washington, D.C., Dawson reviewed toxic-gas regulations in Connecticut, Massachusetts and Michigan.

She applied those state standards to 10 neighborhoods that had reported toxic-gas trouble. They included homes near the Redfield rifle scope factory, Colorado Department of Transportation headquarters and Lowry Air Force Base sites in Denver; the Hamilton Sundstrand factory in south Adams County; the Alliant Technology site in Littleton; plus polluted areas in Bancroft, Neb., San Francisco, Eau Claire, Mich., North Adams, Mass., and Uncasville, Conn. Many were polluted with several different chemicals.

Her findings: Michigan toxic-gas regulations failed to detect 31 of 36 unsafe air conditions in homes. Connecticut's rules failed to catch 27 of 36 unsafe air conditions, and those in Massachusetts missed 13 of 36 unsafe conditions.

Study results

Here is how Helen Dawson, an Environmental Protection Agency scientist based in Denver, concluded that toxic-gas standards in three states were too lenient.

As part of a national hazardous-waste conference last month in Washington, D.C., Dawson reviewed toxic-gas regulations in Connecticut, Massachusetts and Michigan.

She applied those state standards to 10 neighborhoods that had reported toxic-gas trouble. They included homes near the Redfield rifle scope factory, Colorado Department of Transportation headquarters and Lowry Air Force Base sites in Denver; the Hamilton Sundstrand factory in south Adams County; the Alliant Technology site in Littleton; plus polluted areas in Bancroft, Neb., San Francisco, Eau Claire, Mich., North Adams, Mass., and Uncasville, Conn. Many were polluted with several different chemicals.

Her findings: Michigan toxic-gas regulations failed to detect 31 of 36 unsafe air conditions in homes. Connecticut's rules failed to catch 27 of 36 unsafe air conditions, and those in Massachusetts missed 13 of 36 unsafe conditions.

The Philadelphia Inquirer March 8, 2002

State begins cleaning up Whitpain gas leak

WHITPAIN - Four years after one of the region's worst gasoline leaks was discovered at a service station here, state officials yesterday began cleanup efforts expected to last for decades.

For the next year and a half, contractors will drill 175 200-foot-deep wells, dig quarter- to half-mile-long trenches, lay miles of pipe in those trenches, and erect a state-of-the-art treatment plant to remove between 12,000 and 15,000 gallons of gasoline from the groundwater.

It will vacuum the water from those wells, through those pipes, and into a series of cleaners and extractors that will purify and recycle the Montgomery County community's groundwater of contaminants and possible carcinogens, such as the anti-ozone gasoline additive methyl tertiary butyl ether (MTBE).

The cycle will be completed when the purified water is pumped onto the nearby Meadowlands Golf Course.

Beginning in November 2003, the $5.5 million facility on township-owned land near the service station, at Skippack and Penllyn-Blue Bell Pikes, should be up and running and processing about 200 gallons of water per minute around the clock.

At that rate, the cleanup should take 10 to 20 years. Or 50 years, or longer, depending who is estimating. The Department of Environmental Protection said much depends on groundwater levels, how much the contaminants have dissolved, and how far they have traveled.

"Would I love it to go faster? Yeah," said Steve Sinding, regional section chief of the state Department of Environmental Protection (DEP) storage tank program.

But at least and at last, officials and residents said at groundbreaking ceremonies yesterday, the cleanup has begun.

It has taken four years to get under way because of investigations and evaluations, initial cleanup efforts, and the process of getting money from the state and the service station industry's Underground Storage Tank Indemnification Fund, Sinding said.

The leak of super unleaded gasoline from the Blue Bell Gulf service station was discovered in May 1998, when fumes caused an explosion in a wellhouse across the street.

Two nearby homes were declared unsafe and evacuated for several years because of dangerous fumes (one home has since been reoccupied, although with round-the-clock indoor air-purification equipment), and 14 other nearby homes with their own wells had to be given emergency transfusions of city water.

The underground "plume" of the Whitpain leak now is a quarter- to a half-mile long, and, creeping in a northeasterly direction, is almost exactly that distance from Wissahickon Creek, which feeds into the Schuylkill.

The leak was one of the region's worst, but Sinding said that cleanup and containment efforts already taken will keep the pollution from reaching faucets. The Blue Bell Gulf station is still there but closed.

The cleanup system, being built by Barbella Environmental Technology Inc. of Somerville, N.J., has been used locally before. The equipment will be housed in a structure 100 feet long by 75 feet wide and 25 feet tall. It will be buffered by trees and emit about as much noise as a home's air-conditioning compressor.

At a state Environmental Hearing Board proceeding two years ago, DEP officials said the station's leak-detection equipment hadn't worked properly and that the owner hadn't submitted required inspection records in 1996 and 1997.

Lawsuits and legal proceedings against the owner and others have been brought by the DEP and area residents.

One of those residents, Chris Fisher, 65, said Wednesday: "All of us who live here are happy that this is finally being done." But Fisher, one of those who had to get city water to replace her own well water, did add: "It would have been ideal if this started four years ago."

Seth Grant, who lived in one of the houses declared uninhabitable, said he, too, was "glad to see them taking action." But Grant said the four years that he, his wife and two children lived in cramped, temporary quarters before buying a new home were "a real nightmare."

Grant, 40, a lawyer active in efforts to prevent similar disasters, said that whenever someone talks about buying a house, "I always tell them: 'Do not live anywhere near a gas station.' "

St. Louis Post-Dispatch August 23, 2002

HARTFORD RESIDENTS PRESS FOR ACTION ON TOXIC FUMES

David Phillips says he's not a rabble-rouser, but he told Illinois health officials in Hartford Thursday that he won't stop pressing for a solution to the toxic fumes that plague some homes in the community of 1,500.

"The state has dropped the ball and then kicked it a few times," said Phillips, who lives on East Watkins Street where the worst of recent problems have been reported.

"My wife is pregnant," he said. "If anything happens to that baby, I'll have a long list."

Phillips was among the Hartford residents who talked with Illinois Department of Public Health officials at an informational meeting Thursday at the village hall.

Ken Runkle, an environmental toxicologist with the state agency, said one of the aims of the open house was to try to determine if problems exist outside the area along East Watkins Street where the worst problems have been reported since mid-May. That's also one of the aims of the department in distributing a questionnaire to Hartford residents this week.

Experts say there's a pool of 3.8 million gallons of gasoline under the village, which is adjacent to the Premcor Inc. oil refinery and not far from a Phillips Petroleum Co. refinery and a closed refinery owned by BP America.

There have been complaints about annoying fumes and even several explosions over the last several decades. Heavy rain and high water tables were blamed for vapors that sparked complaints and forced some families from their homes in May.

Runkle said this year's problems marked the first time that officials were able to collect hard data showing dangerous levels of benzene, toluene, xylene and other solvents in the basements of several homes.

He said other agencies are working on a solution to the problem. The health department's responsibility, he said, is to assess risks and help people protect themselves.

Runkle said vapors are seeping into homes through basements, so basement ventilation may be the best solution in most cases. He said levels of the toxic vapors have dropped dramatically since May but that monitoring has shown they're still present in some homes.

Saint Paul Pioneer Press December 24, 2002

Winona water supply unaffected by pollutant

WINONA, Minn. -- Winona's municipal water supply remains safe for now despite a plume of groundwater contaminated with a suspected carcinogen that runs under part of the community, city officials said Monday.

Also on Monday, contractors began tearing down a dry cleaning company building that was the source of the chemical, perchloroethylene, or PCE. A home next door that was contaminated with PCE vapors was also demolished Monday.

A 2000 report about the 13-year-old Superfund cleanup site by the Minnesota Department of Health said the plume of contaminated groundwater extends about two miles to the east-northeast of the Leafs Cleaners and Launderers site.

Steve McBurney, city engineer, said all private wells in the zone of concern have been capped, and those residents have switched to municipal water.

Water Department Superintendent Bob Keiper said quarterly state tests have shown no alarming signs of PCE in the city's water. Keiper said he believes most of the pollution lies at shallower levels than city supply wells, which are 150 to 500 feet deep. The city wells closest to the site are less than a half mile away.

The state plans to excavate contaminated soil beneath the two demolished buildings Jan. 27-29. A nearby school will close for that period to avoid exposing children and staff to PCE vapors.

The cost of demolition and excavation is estimated at $554,000, and is being paid for by a state dry cleaners fund that will reimburse the state Superfund.