Greenpoint's Superfund Problem

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BROOKLYN, NY-- Last summer, Patrick Keefe was pushing his 18-month old son on the swings at a playground in Greenpoint, Brooklyn, when he spotted a 30-foot wall of dust moving towards him and his child from a demolition site across the street.

“I grabbed my kid and ran out of there because I didn’t know what was in that dust, and I know it’s a superfund site,” said Keefe, 39, who lives a block away.

The demolition site, a sludge tank that stored wastewater until last year, and Greenpoint Playground sit across the street from NuHart & Co. Inc., a factory that produced vinyl siding for six decades until it went defunct in 2004. That same year, the New York State Department of Environmental Conservation (DEC) found the soil around NuHart to be contaminated with tens of thousands of gallons of toxic industrial chemicals.

New York State has nearly 2,500 of these old industrial sites with varying levels of contamination on record. They’re called “superfund.”

The DEC designated NuHart a Class II superfund site in 2006.
Superrund sites, named after the federal program passed in 1980 empowering the U.S. Environmental Protection Agency (EPA) or the site’s state environmental agency to determine how much environmental contamination occurred and how much of a risk it poses to the public and the environment.

Last year, Manhattan-based Dupont Street Developers purchased the property with plans to build a luxury high rise on the heavily polluted site. Concerned new and lifelong Greenpoint residents say they don’t trust that the developers will take the proper measures to prevent community exposure to the toxic site.

Many say that witnessing mishaps in the past with other residential and commercial development in their neighborhood contribute to this belief. A rave permitted to take place at NuHart in October also caused some residents to believe the developers will not pay mind to environmental precautions.

“I wouldn’t say I trusted them ever, certainly now it seems like a company that’s interested in profit and there’s no reason for them to be concerned about the community members living there right now,” resident Sarah Balistreri, 36, said.

Despite community distrust, representative for the developer Yi Han says the developer is just as interested in a thorough, multi-step and transparent superfund cleanup process.

“We value being open,” Yi said. “We have no intention of hiding anything.”

At numerous community meetings in recent months, the developer, the city councilman’s office, the DEC, the New York City Department of Environmental Protection (DEP) and other agencies have tried to assuage the residents’ collective fear of an unmitigated danger.
unsafe cleanup plan.

“We’re going to get as much information as we can to put together a plan that’s going to take care of this contamination,” said Jane O’Connell of the DEC.

Arranged community meetings serve as the official opportunity for residents to comment on agency updates or ask representatives of the developer, agencies or city councilman’s office about the plan at every stage of the cleanup. However, the nature of the superfund cleanups and threat of chemical exposure are difficult to understand, and so are the terms used to describe them. Officials and residents at times speak over each other during Q&A sessions. Keefe, who has attended some meetings, said they are not very effective.

“Everyone’s angry, everyone’s scared, everyone’s protective of their domain, there’s a lot of finger-pointing,” he said of residents and agency reps.

But residents keep coming back with open ears and no-nonsense attitudes, ready and determined to be heard.

“I would say that it is somewhat unique to Greenpoint,” said Mike Schade of Neighbors Allied for Good Growth. The local activist said environmental activism was born from a long history of environmental injustice in Greenpoint at the hands of industry.

Activism and awareness aside, concerned residents do not have a comfortable guarantee that they are safe from the superfund at any given moment, leaving them struggling to come to terms with living in the shadow of a superfund site.

“It makes me feel angry and powerless. We’re living in it. There’s only so much that you can do to not be exposed.”
A year after Patrick Keefe dashed out of the Greenpoint Playground clutching his son, a local advocacy group, Neighbors Allied for Good Growth, and the office of Greenpoint’s councilmember Stephen Levin, held a community meeting in July at the senior center across the street from NuHart.

It was one of the first opportunities for residents to share their concerns and to learn about the dangers trapped below the ground at the superfund site. Michael Roux of Roux & Associates, the developer’s environmental consultants, told a crowd of about 40 people that approximately half of the NuHart property was contaminated with a slew of hazardous chemicals. Demolition of the property, he said, would happen as quickly as possible.

A middle-aged man in the crowd asks Roux if the superfund property will be cleaned up by the time construction starts.
property will be cleaned up by the time construction starts.

“We’re not going to do any development of these sites without a lot of coordination with city and the state. Okay?” Roux replied.

More hands raise.

Superfund law requires the DEC to oversee the developer through the site cleanup, a process called “remediation.” DEC had already done the first step of the superfund process: confirm that NuHart is a superfund site.

Next, a DEC-approved environmental lab group hired by the developer conducts an array of tests: for expected and unexpected contaminants, from plastic-making chemicals once used on-site to asbestos minerals found on the roof of the site’s northeast corner. The tests inform the “Remedial Investigation” report, the DEC’s interpretation of the type of threat the contaminants pose for the community, and the “Feasibility Study,” a list of ideas on how to remove the contamination from the soil.

A few residents bring up concerns about dust control. They’re worried that chemicals trapped underground will go airborne once excavation begins. A young mother asked Roux what would be done to keep dust from the superfund site from scattering toxins from the site into the playground, which is what caused Patrick Keefe to flee the park with his child last summer.

One man asks if air monitoring systems will be in place to tell if toxins have reached in dangerous concentrations.
toxins have escaped in dangerous concentrations.

Consensus between the agency and the developer was also hard to come by. O’Connell affirmed there would be, also suggesting an enclosed tent over digging sites. Roux said it depends.

Roux argued against a guarantee for a tent. “We want those precautions, but [that] attempt I might argue,” he said.

“You may argue all you want. They might not be your decisions,” O’Connell countered.

“It might not be my decision,” Roux conceded.

The DEC’s trumping power does not reassure everybody at the meeting that the job will be done well, however. Lifelong resident Laura Hofmann said she’s seen mishandling of other sites the community won’t let the same thing happen with the NuHart site.

“I’m prepared to take a couple of weeks off my vacation just to parade back and forth in front of that building when it’s happening,” she said.

Then Hofmann asks what everyone seems to wonder: can they be guaranteed the agencies and the developer will do whatever it takes to protect them?

“I really need to hear from the regulators that that’s something in addition to the norm is going to happen at this site when it’s remediated,” Hofmann said. “Is that going to happen?”

“We hear your concerns and we’ve heard your concerns on the other side,” O’Connell said, “so we’re going to make sure that we have all the bells and whistles in place of the site, make sure that the community is protected during the digs.”

Texting on the Superfund
Toxins on the Supertuna Site

UNDERSTANDING EXPOSURE. A map of NuHart, outlined in red, approximating the spread of spilt chemicals underneath NuHart, outlined in yellow and green. FPM Group, a vendor approved by the city to investigate and clean up environmental sites, used dozens of wells (indicated by black dots) to measure the level of contamination.  Video credit: Helina Selemon (Photo sources: Greenpointers, Google Maps)

Ten to twelve feet underneath NuHart sits two massive pools of chemicals. These chemicals are at the root of every resident’s exposure fear: the somewhat mobile pools of hazardous waste sitting above the groundwater that have to — one way or another — be dug up.

One is a pool of phthalates, a thick, gooey compound with the consistency of molasses. Phthalates are used ubiquitously in plastic manufacturing to make plastic products more bendable. Bisphenol A, more commonly known as BPA, is a example of a phthalate. The Food and Drug Administration (FDA) banned BPA from baby and

TOXIC PLUMES. The two plumes: the gooey phthalate plume (in yellow) and the vaporous trichloroethylene plume (in green). Photo source: FPM Group via Greenpointers
children’s bottles in 2010 because of a correlation between low doses of phthalates and hormone disruption in young children, when ingested.

Phthalates are fairly ubiquitous: they’re used in shampoo bottles, nail polish, toys and soaps. Epidemiologist Pam Factor-Litvak at the Columbia University Mailman School of Public Health said that phthalates are known endocrine disruptors. Phthalates have also been associated with cognition and behavioral issues in children. Factor-Litvak also said that while phthalate research is fairly young—about 15 years old—scientists studying them correlation between phthalates and these conditions have tried to rule everything else out.

“We’ve measured a lot of other contaminants, a lot of sociodemographic characteristics, all that might explain away the association... and they don’t,” she said.

The other toxin chemical under the superfund site is trichloroethylene (TCE). It is an industrial solvent historically used as an alternative to chloroform and as a dry cleaning solvent. When inhaled, it causes headaches and dizziness. de Fur said to imagine filling a gas can and getting “too much of a whiff.” TCE is linked with increased incidence of autoimmune diseases and abnormal fetal development.

Combined, an estimated 40,000 to 60,000 gallons of phthalates and TCE form two underground pools called plumes. But the plumes couldn’t be more different, de Fur said. The phthalate plume is dense and sticky; the TCE plume is more volatile, changing easily from liquid to gas. This quality makes it
easier to rise from the solid ground to the surface.

Though it hasn’t been made clear how much exposure the community faces now, de Fur said that the data suggests that the TCE plume poses the most relevant risk to Greenpointers. That’s because the vapors can rise from the ground and get trapped in one’s house.

“There are chemicals that we know vaporize and they can get into your house and they can keep an ongoing, low-level exposure in you,” says de Fur. “It can affect all these different organ systems, but the key is the duration and the magnitude of how much you breathe.”

**Neighbor to Industry**

![Image](image_url)

**TOO CLOSE FOR COMFORT.** A view of NuHart from resident Dafna Naphthal’s house across the street. Photo credit: Helina Selem

NuHart sits right in the middle of a residential neighborhood. Houses and a senior home line the south side of NuHart, two new commercial buildings run along its north side. More houses stand east of it, and to the west, between it and the East River, sits a children’s playground.

Peter de Fur, the environmental scientist hired through an EPA grant, has been in the neighborhood for two years. He is not sure when he will leave. 

*more thoroughly in the playground and the lot for a proposed elementary school. Photo credit: Helina Selem*
technical assistance grant to consultant the Greenpoint community, says this is generally uncommon for industrial factories, much less so for ones designated as superfund sites.

“Greenpoint has its unique features because it’s right in a downtown city, mixed residential/commercial area at the waterfront,” de Fur said.

De Fur and his team based in Richmond, VA; Environmental Stewardship Concepts, have consulted on other superfund projects in the northeast, northwest and the south. He said superfunds are complicated sites to clean up, and even though Greenpoint has proactive community involvement, they, like other superfund communities, will not likely see NuHart as clean as they would like.

“You can’t put the toothpaste back in the tube once it’s out,” he said.

“Just like all other communities, they’re also going to grapple with the fact that superfund sites are inherently problematic,” he said.

De Fur said most chemical spills on a superfund site are accidental—like from a leaky tank—or careless. No one knows for sure when NuHart’s chemical contamination occurred or if it was accidental or careless. (de Fur and the DEC postulate that tanks on the site containing these chemicals leaked the chemicals into the soil of the site, which created the plumes). The DEC has to approximate where it all is by looking at data from wells surrounding the site.

But what de Fur does know, however, is that the damage at NuHart won’t be completely undone.
“You can’t put the toothpaste back in the tube once it’s out,” he said. “That’s a real tough thing for the community to deal with.”

**Knowing the History**

**INDUSTRIAL LEGACY IN PICTURES.** A slideshow showcasing some of Greenpoint
Greenpoint (right of Newtown Creek) started out as a home for glass-making, px
Industrial Revolution spurred the growth other industries like shipbuilding and o

Environmental distrust runs deep in Greenpoint, almost as deep as its reputation as an industrial haven. Ask 56-year-old Laura Hofmann, a lifelong resident who lives with her husband, Mike, a block away from NuHart on Dupont St. She said her parents who lived six blocks down on Java St.. inhabited Greenpoint since the
1930s, a time when the industrial presence was more pronounced.

It was very much embedded in her upbringing. Industry was even a part of cultural references. She recalled a Standard Oil slogan from a TV advertisement her father would mimic in the car while driving over the Greenpoint Ave. Bridge.

“There were times when he would say ‘Put a tiger in your tank!’” she said, striking a fist against her chest with a smile at the memory. “And he would kind of make an exclamation and hit his chest. At the time, that was a slogan for [Standard Oil.] It was the early version of Exxon.”

Sitting at her dining room table with a cup of tea, Hofmann speaks slowly and articulately about her early, self-admitted naive years. She recalled an early memory of Newtown Creek, the estuary turned toxic by decades of waste dumping from factories, when her family was driving over the creek into Brooklyn one night.

“As children we would be sleeping in the back of the car, and the smell was so horrific that it was enough to wake you up,” Hofmann said.

Hofmann lived 10 blocks from the creek, and only about four blocks away from the Greenpoint incinerator which burned over 500 tons of garbage everyday. The sludge tank that stored wastewater solids for treatment sat about 7 blocks away from her home.

“The smells in Greenpoint were enough to make you feel nauseous. And some people did indeed vomit, it was that bad,” she said.
While Hofmann says the air quality now is “99.9 [percent] better,” the source of the wretched smell hasn’t been completely dealt with. Newtown Creek’s heavy industrial use in the 1800s and 1900s has made it a federal superfund site and one of the most polluted sites in the country. But kids, she said, including her husband, still swam in the creek.

In 1978, an oil refinery leaked between 17 to 30 million gallons of petroleum and crude oil into Newtown Creek. The Greenpoint oil spill became the third largest oil spill in US history. Oil soaked into the land took years to remove from the ground and for some time incited fear of health problems from vapor exposure. A longstanding lawsuit led to the community receiving a settlement of $19.5 million towards nonprofit environmental cleanup initiatives in the neighborhood in 2013.

She said she remembered when NuHart was functional. She said little white flakes would float from the factory onto her plants and air-conditioner, forming a gooey film.

“You could form it like kids putty,” she said, rubbing her palms together. “Later on we found out that it was most likely mold adhering with the phthalates coming out of the stacks.”

Hofmann said a series of unexpected illnesses in her family.

Her daughter and she were diagnosed with lupus, an autoimmune disorder. Her parents died of rare brain conditions. Her eldest son developed “an array of autoimmune disorders” and lost two babies not long after birth: one from abnormal, fatal swellings from an autoimmune disorder, and the other from other inherited medical issues.

LIFELONG CONCERNS.
Lifelong residents Laura (left) and Mike (right) Hofmann recall their early experiences with NuHart. Photo credit: Helina Selemon
from a cyst-forming disorder called cystic nygroma, the other had a life-threatening edema from a condition called hydrops fetalis.

It made her keen on seeing a health study done in Greenpoint.

“For me, the health study thing is a big deal,” Hofmann said. “In my book it’s affected my health I’ve lost and all my family members have lost life and time: time going to the hospital, time going to visit babies in the hospital... time being diagnosed, time out of work, time out of school.”

None of the conditions have any known correlation with industrial chemicals like the ones at NuHart, but Hofmann thinks that without a health study of the community, there’s no way to know.

“You know how you have uranium glass and you need a black light to look at it? There’s a type of depression glass called ‘uranium glass’ and you need to look at it under a black light to see the glow. It’s like this community: you really need to look at it under a different light to get the true feeling and the true value of what’s going on,” Hofmann said.

Hofmann and fellow resident Kim Massar, a writer for local blog Greenpointers, submitted a Department of Health grant proposal to get a health study on their neighborhood funded. But it was never approved.

Peter de Fur, an environmental consultant on superfund sites, said health studies around superfunds do happen but not very often. That’s because there are rarely enough people to study. A “small number of people,” de Fur said of the study standards, was “a few hundred” affected people. Many years ago, de Fur put in a grant proposal to study a group of workers and their families who had been affected by a chemical spill.
“When the funding agency reviewed our proposal, they said, ‘you know this is great, you’ve got everything in place.... Everything’s right, but we can’t fund it because there aren’t enough people,’” he said.

That community was larger than Greenpoint’s, de Fur said, and a small test population makes it hard to tell if there’s a correlation between the suspected health issue and the superfund contaminants.

Hofmann is convinced her family and her health has been compromised by industry in Greenpoint, including NuHart, but also fears that if NuHart’s remediation isn’t done with the utmost of safety, then a new generation of people--particularly newcomers to Greenpoint-- will risk exposure as well.

“I’m afraid of that. People in this area are going to get exposed all over again and in a different way,” Hofmann said.

**Looking Ahead**

![DEVELOPING NEIGHBORHOOD. Young children swinging at Greenpoint Playground on a summer day, the same swingset resident Patrick Keefe and his son played at before seeing a plume of dust just a year before. Photo credit: Helina Selemo](image)

When Patrick Keefe thinks back to when he bought his wife and
he bought their house on Eagle Street four years ago, he remembered why he fell for Greenpoint.

“To be honest with you, I never really thought they would develop up here. We picked Greenpoint because it was not Williamsburg,” he said. “It was a little bit backwater and we were hoping it would stay that way.”

But the trend towards development in Greenpoint started long before four years ago. In 2005, New York City’s city planning department announced the conversion of 176 acres of industrial land to commercial and residential land in Greenpoint and Williamsburg. A year later, city planning approved a waterfront development project to make the East River waterfront along North Brooklyn more accessible to the public and residential development. The waterfront plan is responsible for the sludge tank demolition that caused the plume of dust advancing on the playground that summer by the swings.

The community and Keefe are waiting to hear about cleanup options in spring 2016. He said with as multifaceted a case as NuHart is, he still doesn’t believe everything will be done safely. He just doesn’t feel empowered to change NuHart’s course.

“You can’t fight progress or stop progress. It’s going to happen,” he said.

Keefe takes his son back to Greenpoint Playground sometimes. He said they still go on days it is not too dusty.

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