



## 'Has damage already been done?'

Questions swirl on high lead levels in Bordentown drinking water

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"How long has this been going on?" asked Louis Lupinacci as he stood outside his Bordentown Township home in early April, frustration in his voice.

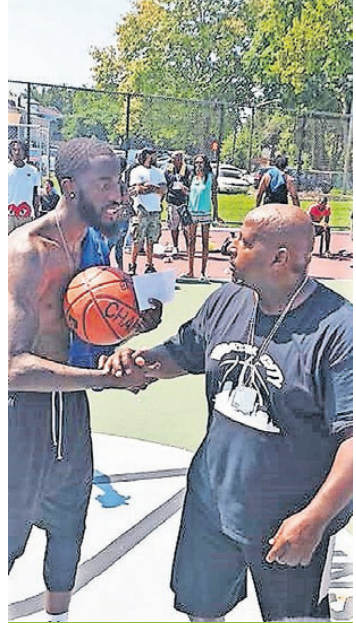
"Flint, Michigan," he added. "Is that what we have here?"  
Lupinacci is one of more than 20 homeowners recently notified by the Bordentown City Water Department that lead levels in their drinking water are above federal safety limits. The system serves about 16,000 people in Bordentown City, Bordentown Township and Fieldsboro.  
The New Jersey Department of Environmental Protection, which enforces the EPA's

rules, is requiring the utility to increase its monitoring for lead, come up with a potential action plan, and take measures such as communicating with the public. All signs show the water department is following through on those requirements.  
But what's missing, according to residents and experts with whom this news organization spoke, is the bigger  
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Sarah O'Brien, of Bordentown City, gets a glass of water. Her home is one of many that have tested high for lead in the past year. [NANCY ROKOS / STAFF PHOTO-JOURNALIST]

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### STATE OF EMERGENCY



Jason Wasylenko, 32, in his Falls home earlier this month. Wasylenko has spent a total of about 11 years behind bars since 2003, as he battled his heroin addiction. [PHOTOS BY KIM WEIMER / STAFF PHOTOJOURNALIST]

## For some struggling with addiction, jail has become de facto treatment

By Marion Callahan, Kelly Kultys and Jenny Wagner  
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Jason Wasylenko gave the prison employee his sizes and was handed a pair of jeans and a chambray shirt.  
The 32-year-old gathered his belongings — some art made by other inmates, sports posters, a TV and stereo, books and knickknacks — and left his cell of the last three years.  
He went to medical, then the business office. He filled out paperwork and verified his identity so the guards at the State Correctional Institution in Rockview, in Centre County, Pennsylvania, knew

they were releasing the right person. He'd been through it all several times before.  
Still, he was anxious.  
Jason was accustomed to life behind the wall. He knew what to expect. And he knew what to expect after he was released, too — both good and bad.  
"When you go in and you're putting all your baggage at the curb, when you come out that baggage is still sitting there waiting for you," he said. "And some people's bags are a lot heavier or lighter than others."  
For as many as 70 percent to 80 percent of inmates, including Jason, that baggage  
**See REFUGE, A6**



Wasylenko plays with dogs at Falls Township Community Park.  
"When you go in and you're putting all your baggage at the curb, when you come out that baggage is still sitting there waiting for you. And some people's bags are a lot heavier or lighter than others."  
Jason Wasylenko

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# WATER

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picture: How long have residents been exposed to high lead levels? How many are affected? What's causing the contamination? And is there a health risk?

"There's a concern because I raised four kids here," said Pat Lupinacci, Louis' wife, adding her grandchildren now visit on a regular basis. "I wouldn't use the water (for them) at all."

The water department is the only community water system in Burlington County that exceeded the EPA's action level last year. In the past decade only one other system — Burlington City in the late 2000s — had similar lead issues, and an NJDEP spokesperson said statewide, only a few dozen of 1,300 water systems are exceeding lead standards.

Since lead issues usually come as water is being distributed — leaching out from water mains, service lines to homes, or internal plumbing — rather than at the water plant, lead testing must be done at customers' taps. Typically, a representative sample of 30 to 60 homes is tested, and if more than 10 percent exceed a 15 parts per billion (ppb) "action level" for lead, the system is considered above federal limits and must take specific actions.

After testing 68 homes last year for lead, Bordentown had 30 ppb at the top 10 percent, twice the allowed limit.

The Lupinacci home's level was 22 ppb. A house on West Constitution Drive tested at 610 ppb, or 40 times the EPA action level. Four other locations had more than 100 ppb.

One part per billion of lead in water is small, about the size of a sugar cube in an Olympic swimming pool. But experts say the toxic metal can build up in the human body and pose serious health risks, and that no amount of lead exposure is healthy.

"There is no safe level," said Tom Neltner, chemicals policy director with the Washington, D.C.-based nonprofit Environmental Defense Fund. "Fifteen (ppb) has nothing to do with health."

Neltner and other experts say one of lead's most concerning effects is on young children. The metal irreversibly stunts neurological development, leading to lower IQ levels. The lack of emotional control typically thought of "the terrible twos" never stops, with some studies finding children who were exposed to lead go on to have higher rates of incarceration as adults.

Adults aren't spared, either. Lead is linked to cardiovascular disease, constipation, nausea and depression when ingested.

Jerry Sherman is aware of the risks to adults. His home on Spring Street tested at 140 ppb last fall, third highest of all homes tested. His grandkids only visit occasionally, but he drinks bottled water daily out of fear.

"Lead poisoning is just as serious not only for kids, but adults, too," he said. "It might have long-term effects."

## 'Always existed?'

Last year was not the first time Bordentown violated the lead standards. In 2002, DEP data show, the water system's 10th percentile was 197 ppb, or 13 times the EPA's limits. Eight of 30 homes tested above 100 ppb.

Bordentown then tested clean for lead from 2003 to 2016. But last year, the water system had to significantly rework its lead sampling plan after the DEP rejected it. The DEP found several issues, including which homes Bordentown was sampling for lead. Water authorities are supposed to identify "high risk" homes for lead, based on whether there are any lead water mains in the area or if the homes were built during times when lead pipes or solder were commonly used

for in-home plumbing. The highest risk homes are considered "tier 1" and a certain number must be tested.

"Based on an evaluation of the system's proposed sampling pool, none of the Tier 1 sites were sampled previously," the NJDEP wrote to Bordentown, before telling the water department to update its plan by July 2017 to "reflect standard monitoring."

Due to the required changes, the department tested again in fall 2017. Sixteen of the 68 homes tested were found to be above 15 ppb.

Emails obtained by this news organization through open record requests show local officials first learned of the lead violation the week before Christmas. They sent a flurry of emails over several days, sorting out what they needed to do next.

In one email, George Hann, a contracted engineer for the water department, noted the water authority tested 44 more homes for lead in 2017 than it did in 2016. In the email, which was sent to his colleagues and John Walls, the city's licensed water operator, Hann also wrote "is this something never realized but always existed."

The context of the email suggests Hann was aware lead may have been an ongoing problem only discovered by the newly expanded testing. Asked about the email, city commissioner and water director Joe Myers said the DEP "prioritizes" older homes be included in the system's sampling plan.

"These older homes typically used building materials that we now know potentially result in lead levels in the water," Myers wrote in an email.

In communications to NJDEP and mailings to customers, Bordentown wrote it does not believe it has any lead water mains. Instead, it identified the "highest risk" homes as those with either "lead service lines or lead soldered copper piping installed between 1982 and 1987."

But of the 16 homes found to be above the 15 ppb level last fall, only seven were ones identified as high risk homes, while nine were considered lower risk, including four of the highest six results.

Asked if the city had any idea what caused the high lead levels to appear in 2017, Myers only referred to statements that lead can leach from in-home plumbing. Asked whether the water department had made any effort to determine how long residents have been exposed to lead levels, Myers wrote "The (2017) testing results were able to confirm that any lead exceedance is occurring outside of the distribution system."

"In these instances, public outreach and education is critical so that homeowners can make informed decisions," Myers added.

Asked whether the water department made any effort to determine if homes that tested high for lead in 2002 were the same ones, or near homes that tested high in 2017, Myers wrote that he could not "speak to the specifics of the 2002 instance."

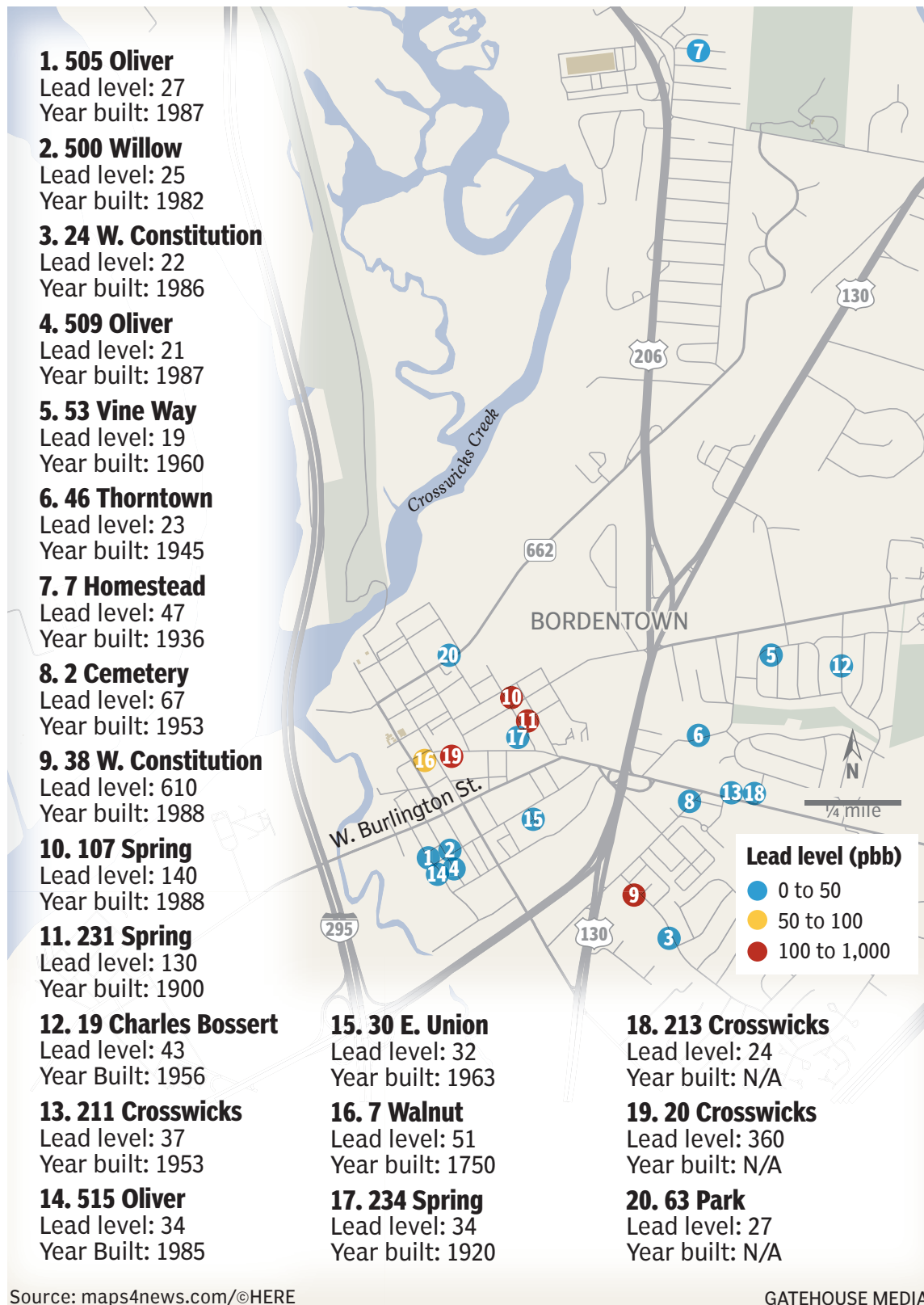
Larry Hajna, a spokesman for NJDEP, said it is "not known why Bordentown incurred" the high lead levels in 2017, but further confirmed Bordentown had not tested any Tier 1 homes from 2014 to 2016. He added the water department "indicated they are uncertain if any lead goosenecks," or flexible joints between pipes, "were used in their distribution system."

Bordentown's water system begins at its water treatment plant along the Crosswicks Creek to the north, before flowing south through the entirety of Bordentown township and city. But high lead results cluster in the city and nearby areas of the township to the east of Route 130.

The densest cluster was at the southern end of city, where four neighboring homes on West Union and Oliver streets tested between 21 and 34 ppb. Among them were first-time homeowners



Andrew MacLane, of Bordentown City, checks the water filter system installed under the kitchen sink. His home was one of several found to have high lead levels. [NANCY ROKOS / STAFF PHOTOJOURNALIST]



Source: maps4news.com/©HERE

GATEHOUSE MEDIA

Andrew McClane and Sarah O'Brien, who purchased their home just months before the high levels of lead were found. By coincidence they had already installed a filter on their kitchen sink, but said the reading still came as a bit of a shock.

"It made us concerned, especially as new homeowners, not having a clue how things work, O'Brien said.

"I was like, where is this coming from?" McClane added. "The house is only 30 years old."

## Bordentown's response

Bordentown water officials first became aware of the situation on Dec. 19, when Hann emailed the city's water consultants, who are contracted from third-party companies Water Resource Management (WRM) and Remington & Vernick Engineers.

Hann wrote that John Manganaro, an operations manager at WRM, had checked the DEP website and noticed the system exceeded the lead standards.

"We may want to plot the exceedance result on a map to determine if these are a regional issue within the service area," Hann added. "Please contact the city and make them aware of the required public notification process and assist them in

getting it done."

Emails between city officials, the water contractors and the DEP show the system did work to meet all the requirements needed in event of a lead exceedance. They notified customers of the issue, scheduled prompt re-sampling of homes that tested above the 15 ppb level, and held a public meeting in late February.

Two days after the initial flurry of emails, Hann wrote the email where he appeared to wonder if the lead levels had "always existed." He noted a meeting of city officials was scheduled for the following day, and once again asked if they could plot the homes to see "if it's a regional issue."

None of the emails released to this news organization afterward show any further discussion on how far back the contamination may have went or what areas or kinds of homes had high lead levels.

In an email to NJDEP the following week, Manganaro referenced the meeting and said he was instructed to "start the public education this week."

"The Town wants to get out in front of this in a positive matter ASAP," Manganaro wrote.

Over the following few weeks, the emails show a focus on crafting language for public communications, including

educational material included with water bills and a public notice for the water department's website and the towns' public spaces.

Another round of sampling also was ordered for homes above 15 ppb, but they were to be performed differently than the first round. Legally, initial lead tests can only be performed after a tap has not been used for at least six hours, so that if there are any lead materials, the metal would build up in the water. But the water authority decided to first flush the taps during re-testing, in order to demonstrate customers could lower lead levels by doing so before using the water.

"Even though this is not a part of the sampling compliance guidelines, it gives a sense of relief to the resident," wrote John Meier, a WRM employee, in one email.

After the re-sampling was completed, Daniel Beach, an assistant operations manager from WRM, wrote to his team and city officials that "I think we can wait for these results to come in and use the results in furthering our strategy."

Ultimately, the flushed testing results all showed lead levels well below 15 ppb. Homeowners with whom this news organization spoke said they received the same

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# WATER

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feedback from the water department: that follow-up results showed lower levels, they should flush their taps if they were worried, and the city was working on a plan to solve the problem. But for several, it wasn't enough.

"I was going to call the EPA myself if I didn't hear back from them to get some further clarification as to where this is going," Sherman said.

## More lead found as city tries to correct

Regulations require any water authority that exceeds the lead standard to correct the situation. Even if lead is coming from pipes or plumbing not owned by the city, the water department is still able to make adjustments at its water plant to try and solve the problem.

A common approach is through the use of chemicals called orthophosphates, which create a lining inside pipes that stops lead from leaching out. Burlington City successfully used the chemicals in the 2000s.

Bordentown is pursuing a different strategy. In communications with the DEP, officials said they are instead adjusting the amount of lime added

to the system to raise the water's pH level. Achieving a higher pH level can make water less acidic, which in turn leads to less corrosive water.

Bordentown has through June to fix the situation. But early results do not appear promising: Of the 44 homes tested so far this year, seven have come back above 15 ppb, including five homes not previously identified. The 10th percentile so far is 23 ppb.

Neltner, with the Environmental Defense Fund, questioned if pH adjustment is enough.

"Phosphates are going to be more effective than just lime on its own," Neltner said. "So they're taking a half measure."

NJDEP data appear to show orthophosphates in the water system in January only. But Myers said they had not used it at all. Asked to respond to Neltner's criticisms, Myers wrote only "The pH adjustment was used as a starter."

**"The utility should have immediately got the health department to go in and test those people. Test those kids. You need to investigate it."**

Tom Neltner, chemicals policy director with the Washington, D.C.-based nonprofit Environmental Defense Fund.

## Health concerns

Even if the water department can get the lead out of the water, an important question remains: Has damage already been done?

"The utility should have immediately got the health department to go in and test those people. Test those kids," Neltner said. "You need to investigate it."

Howard Neukrug, a former commissioner of the Philadelphia Water Department and current professor of practice in water at the University of Pennsylvania, offered a similar question.

"Are there any changes in children's blood lead levels, as reported by the county health department?" Neukrug wrote to

this news organization.

According to the New Jersey Department of Health website, state laws stipulates "all children should be tested at both 12 and 24 months of age" for lead.

Asked if the county has any such data, and if it shows any elevated lead levels in Bordentown children, county spokesman Jason Tosches asked this news organization to file an open records request, which was then denied based on resident confidentiality, despite not requesting names or addresses.

Asked if the county health department communicated with local

officials regarding public health concerns, Tosches said it had not had any discussions relating to elevated lead in Bordentown. He added parents can have their child screened for lead and the county would provide health services if elevated above state standards.

Tosches also said the state health department holds blood data reports. New Jersey Department of Health spokeswoman Dawn Thomas also told this news organization to file an open records request, which is pending. The agency "has not been contacted by local officials or residents regarding public health concerns in Bordentown," Thomas said.

Asked whether the city was concerned about any high levels of lead in residents' bodies, Myers only reiterated the water department has informed



**Sarah O'Brien, of Bordentown City, gets a glass of her filtered tap water at home.**  
[NANCY ROKOS / STAFF PHOTOJOURNALIST]

residents about actions they can take if they are concerned about lead exposure and is working to adjust the water treatment process.

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