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MTBE PERSISTS IN WINDHAM WELLS

By CHUIN-WEI YAP, Portland Press Herald Writer

Five years after groundwater heavily tainted with MTBE was found near a Christy's convenience store in North Windham, scientists have found that the clean-air fuel additive still lingers in the environment.

Trace levels of MTBE persist in nearly half of 19 monitoring wells across Windham, according to observations by John Peckenham, a geochemist at the Senator George J. Mitchell Center for Environmental and Watershed Research. The levels are far below the state's maximum thresholds, but they send a worrying and unexpected signal of the gasoline additive's longevity.

"We're still seeing it in 40 percent of the wells we sampled," Peckenham said. "We started work in 1998, and re-sampled in 1999, 2001 and 2003. It hasn't gone away, but the levels that we find are quite low. It's not necessarily a health crisis, but we don't know what the long-term risks are."

Last year, Peckenham found an average concentration of 0.5 micrograms of MTBE per liter of water in Windham. That is a drop from the 1.5 microgram-per-liter level found in November 1998, eight months after the suspected gas leaks at Christy's were discovered. The samples were drawn from U.S. Geological Survey test wells - not drinking water wells - in back yards, gas stations, parking lots and other locations.

The findings come at a time when Maine's U.S. senators are opposing the passage of a federal energy bill that would protect MTBE producers from product liability lawsuits and delay the additive's phaseout for a decade. The bill remains tied up in congressional negotiations.

The state's MTBE ceiling is 35 micrograms per liter - roughly equivalent to 35 parts per billion - so Windham's residue is small. But the findings still defied Peckenham's expectations.

"One of my hypotheses was that MTBE would be persistent, but the high rate of detection was a surprise," he said.

To complicate matters, the MTBE dilution has not been a straightforward decline. In August 2001, Peckenham found concentrations spiking to 3 micrograms per liter, mostly stemming from two wells. He suspected storm water running off nearby parking lots, but could not reach a conclusive explanation.

The spike is a haunting postscript from a substance whose solubility makes it enormously easy to spread.

"It can go into water vapor in the atmosphere coming off tanks or when tanks are venting," said Peckenham, who is also assistant director of the Mitchell center, based at the University of Maine in Orono.

MTBE is a chemical that was added to reformulated gasoline to reduce air pollution. Maine ordered the sale of the fuel in several southern counties in 1995 to help the state comply with the Clean Air Act. But Maine sales of reformulated gas ended in 1999 after the incident at Christy's and another in Whitefield.

What worries scientists is that long-term, low-level exposure to residual MTBE is still largely unresearched.

"In terms of persistence, there is very little information out there in terms of trends - what happens over five or 10 years," said John Zogorski, who heads the U.S. Geological Survey's national organic synthesis team. "It doesn't take much gasoline to get detectable concentrations."

Peckenham is hoping that his findings justify a longer-term study on the effects of MTBE's persistence.

"It's a perfect natural experiment," he said. "Maybe with these findings, we can get the funding."

But because the levels found were so low, his work has not raised any red flags with state and regional water authorities.

"Anything over the state maximum level would be flagged, but we haven't had anything from the Portland Water District for a while that shows up," said Lindy Moceus, rule coordinator for the Drinking Water Program at the state Department of Human Services.

The water district moved swiftly in the wake of the Christy's contamination to provide a new supply line from Sebago Lake to the 3,000 homes then threatened. District officials said they knew about Peckenham's findings, but remain confident of the water's integrity in Windham.

"When MTBE contaminated the wells, we fast-tracked the plan we already had to connect customers to Sebago Lake," said Michelle Clements, the district's spokeswoman. "It's not affecting us."

So far, the findings have not roused Windham.

Town Manager Tony Plante said public concern over water safety has abated since 1998. The Christy's store was shuttered in early 2002, and an ice-cream parlor has

since taken over its location on Route 302. The gas pumps have not flowed since May 1998.

"With Christy's departure and the extension of the (Sebago) water line, it's something that is still part of people's consciousness," Plante said. "But it hasn't been a frontrunner issue."

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