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Walter Hang of Toxics Targeting shows off clinker, material left behind from burning coal, found next to the Cayuga Heights Publicly Owned Treatment Works facility. (Photo by Rachel Philipson)

## Cayuga Heights investigating gas drilling water quality

**Taryn Thompson**  
Reporter

More than three million gallons of wastewater from natural gas drilling have been accepted by the Village of Cayuga Heights since May 2008. Cayuga Heights' Publicly Owned Treatment Works - known to most as a water treatment plant - has temporarily suspended this practice, however, effective April 2.

The POTW needs to investigate the potential impacts and health hazards associated with the wastewater produced specifically from hydraulic fracturing. Gas companies across the country - and recently more in New York State - have utilized this form of drilling to access the coalbed methane that occurs naturally in Marcellus Shale, a rock formation predominant under the ground of the Southern Tier.

According to Cayuga Heights Mayor Jim Gilmore, the village POTW never accepted wastewater from Marcellus Shale drilling. Rather, it had been receiving wastewater from hydraulic fracturing of rock at a "different depth," Gilmore said.

In October 2008, the state Department of Environmental Conservation's Division of Water established new guidelines regarding the disposal of spent drilling fluids into POTWs. They require prior DEC review and authorization of the discharge of wastewater from hydrofracturing through a treatment facility like Cayuga Heights'. As of January 2009, the POTW must notify the DEC in writing of its intent to accept return or production wastewater from hydrofracturing operations.

In December 2008, Alan A. Fuchs, DEC director of the bureau of water permits, sent a letter to regional

wastewater treatment permitting authorities, declaring that hydrofracturing wastewater from the development of natural gas may only be accepted by POTWs with approved pretreatment or mini-pretreatment programs and an approved headworks analysis for this wastewater source.

Gilmore said he was unaware of this rule and that the Cayuga Heights POTW stopped accepting this waste of its own volition. Previously, he said, the facility had received both written and verbal support from the DEC to accept the drilling wastewater it dealt with until April 2.

"We will only continue accepting hydrofracturing wastewater if we as operators are completely comfortable with the process of treatment, and we are doing everything we can to release acceptable wastewater from our plant," Gilmore said.

"A headworks loading study has been in the works for some time, and we're trying to make it as thorough and specific to frac drilling as possible," he said, adding that the firm conducting the study, Stearns and Wheeler, is DEC-approved.

Brent Cross, Cayuga Heights' superintendent of public works, said the facility will continue researching and investigating its capacity to properly treat this wastewater.

Walter Hang, owner of Toxics Targeting, a local research hub devoted to fishing out public information about water and soil contamination, has already done some investigating.

Hang submitted a freedom of information request for wastewater monitoring results, which turned out "meager at best," he said.

"Not nearly enough samples were collected and analyzed to provide a representative assessment of the drilling wastewater's characteristics," Hang said, but the analytical methods used to identify toxic organic chemicals of environmental and public health concern detected extremely high concentrations of these chemicals, he added.

One such toxic gas, radon, was monitored on January 7, 2009 in "brine water" at 2,937 PCi/L and was reportedly identified in the POTW effluent discharge at a concentration of 8.67 PCi/L. The Environmental Protection Agency's guideline for radon in indoor air limits concentration to 4 PCi/L.

"Radon is a highly potent human cancer-causing agent," Hang said. "It can reportedly volatilize from wastewater that is agitated."

There are no current EPA regulations for radon in wastewater that a facility accepts before pretreatment is required. The State or the wastewater facility may have its own limits, however, according to Enesta Jones, press relations officer at the EPA.

"A local POTW could impose limitations on a driller for discharges of radon or anything in their wastewater that interferes with the POTW's ability to meet its discharge limits," Jones said. "The driller would need to pre-treat its wastewater, if necessary, to ensure compliance with these standards."

The EPA also does not currently have an MCL regulation for radon in ambient water quality, though regulation was proposed to control radon in drinking water in November 1999. To date, the proposed radon rule has not been finalized. EPA continues to evaluate and consider stakeholder concerns with the proposed rule while we work to address other Safe Drinking Water Act priorities.

Congressman Maurice Hinchey recently proposed a legislation that would force federal oversight of the controversial practice of injecting chemicals into the ground to extract natural gas. The legislation would establish a regulatory floor across all states for this process, and according to Hinchey's press secretary Jeff Lieberman, it's a work in progress.

"We're contacting environmental groups and seeking advice from scientific experts, and we want to make sure the bill covers all the bases," Lieberman said. Hinchey's office plans to "bring it together" in the next two months, Lieberman added, but since energy companies have a tremendous amount of power, they continue to face setbacks.

The EPA has taken action to ensure that diesel fuel is not used in hydraulic fracturing, but Congress has exempted the use of fluids other than diesel in hydraulic fracturing from federal regulation, Jones said.

Southern Cayuga Lake is currently listed on the national registry of impaired water bodies. A comprehensive clean up plan was required as a "high priority" by the state DEC in 2002, but no such plan has ever been proposed.