



Minnesota
Pollution
Control
Agency



MPCA Closed
Landfill
Program,
Majors and
Remediation
Division

In cooperation
with the
Minnesota
Department of
Health,
Environmental
Health Division

Ground-Water Sampling for PFOA Near the Washington Co. Landfill

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This Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Health (MDH) fact sheet includes some site history information and describes testing of ground water, including private wells, for perfluorooctanoic acid (PFOA) near the former Washington County Landfill. Additionally, this fact sheet discusses PFOA, and explains why state agencies tested for it, how the testing was done and what was found. Finally, the fact sheet tells citizens where they can get more information.

Site history

This 40-acre site operated from 1969 to 1975 as a sanitary landfill. Site operations were discontinued in 1975 and a clean soil cap was placed on the landfill. In 1981, ground-water monitoring indicated the presence of elevated concentrations of volatile organic compounds (VOCs) and some heavy metals in on-site monitoring wells and off-site residential wells. In 1983 and 1984, alternate drinking water supplies were provided to the affected residences. In 1983, Ramsey and Washington counties installed a pump-and-treat system to reduce any potential ground-water contamination from the landfill.

The site was added to the federal Superfund list, the National Priority List (NPL) and the state Superfund list, the Permanent List of Priorities (PLP), in 1984. After entry into the MPCA's Closed Landfill Program (CLP), the site was delisted from both the state and federal Superfund lists in 1996.

Since 1996, the CLP has taken additional steps to address ground-water contamination by improving the landfill cover and ground-water treatment systems.

Looking at PFOA

PFOA is a man-made chemical. PFOA is used in the manufacturing of products that resist heat, oil, stains, grease and water. Common examples include non-stick surfaces on cookware, stain-resistant carpets and fabrics, and other industrial applications.

Why did the MPCA and MDH test ground water for PFOA?

As scientific studies and testing methods improve, chemicals that could not be detected before are now detectable at low concentrations and are emerging as potential health and environmental concerns. The U.S. Environmental Protection Agency (EPA) performed a preliminary risk assessment on PFOA in 2003 indicating that PFOA is widely distributed, even occurring in the arctic, and lasts for a long time in the environment. Lab animal studies have found that exposure to high levels of PFOA can have adverse developmental impacts, may be toxic to the liver, and could be associated with an increased risk of certain cancer types.

Following the EPA risk assessment, the MDH and other laboratories developed sampling and testing methods to measure PFOA in ground water. During recent routine ground-water sampling at the former Washington County Sanitary Landfill, the MPCA checked for PFOA for the first time. It was detected at low levels in monitoring wells on the landfill property in both the shallow and deeper ground water.

The MPCA and MDH sampled ground



water in the areas south and southeast of the landfill. These areas are downgradient (i.e., in the direction of ground-water flow) from the landfill. The two agencies focused on private wells around 31st St. North and Stillwater Blvd., to the south of the landfill, and Stillwater Ln. and Kelvin Ave., southeast of the landfill.

How did PFOA get into the ground water?

During its years of operation, the Washington County Sanitary Landfill accepted both municipal and industrial solid waste. Based on recent monitoring results, the MPCA has concluded that some of the waste disposed of at this landfill contained PFOA.

The PFOA has leached into the ground water and moved with the ground-water flow. It has also moved deeper, affecting the bedrock aquifer where it was found at low levels. The simplified map on Page 3 of this fact sheet shows where monitoring wells are located around this landfill.

At what level does PFOA pose a risk if consumed in drinking water?

The MDH has proposed a Health Based Value (HBV) for PFOA of 7 parts per billion (ppb) in ground water. This is a preliminary health-based risk number used to evaluate the potential impact of the chemical on public health. In the landfill monitoring wells in which PFOA was found, the levels ranged from 70 ppb at the landfill itself to 1.3 ppb downgradient from the landfill.

The agencies collected water samples from 32 private wells; some wells were sampled twice. Low levels of PFOA (less than 1 ppb) were detected in 7 wells. The other 25 wells did not show any detection of PFOA.

Volatile organic compounds (VOCs) were also tested at the residences where PFOA was initially detected. These compounds are commonly associated with landfill contamination. Low levels of two VOCs were found in four of the seven wells. All of the impacted wells are located along 31st Street North and are believed to draw their water from the bedrock aquifer.

It is important for citizens to know that:

- The concentrations of PFOA and VOCs were well below MDH health-based risk numbers.

- Health-based criteria are designed to protect people's health. They represent the concentration of a contaminant in water that can be safely consumed over a lifetime.
- PFOA was not detected in the monitoring wells north of the landfill (which is in the opposite direction to the ground-water flow).
- Many residences and businesses in the area are hooked up to the Oakdale municipal water supply and are not affected.
- The MPCA and MDH are working cooperatively with the city of Lake Elmo and Washington County to assess any potential problems with PFOA in ground water.

What's Next?

The MPCA will continue to sample ground water at the landfill for PFOA, and will continue to monitor private wells that have been impacted on an annual basis. Households where well testing took place have received the results (along with an explanation of the results) and this fact sheet. Additional studies may be planned. If you receive this fact sheet or live in the area of interest, and have any questions please contact:

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Where can I go to find out more?

- The EPA's draft health risk assessment for PFOA can be found at www.epa.gov/opptintr/pfoa/pfoafcts.pdf.
- The MDH Web site includes basic information about health risk and exposure at www.health.state.mn.us/divs/eh/hazardous/index.html

Groundwater Monitoring Network around Washington County Landfill

