

ANNUAL
**WATER
QUALITY
REPORT**

Water testing performed in 2009



CRANBERRY
TOWNSHIP

PWS ID#: 5100094

Maintaining High Standards

We are pleased to present Cranberry's water quality report for 2009. It includes lab work performed throughout the year in a variety of tests, and the results once again reinforce the high level of confidence our residents have in their Township water supply.



Satisfying state and federal water quality standards is not a simple task. As you will see inside this report, those standards keep getting tighter, so our work to meet them has required our use of new equipment and practices as well. But the result has been our ability to consistently deliver the highest quality drinking water possible.

We encourage you to share your thoughts with us on the information contained in this report. If you have any questions, please contact our Environmental Programs Coordinator Lorin Meeder at 724-776-4806, ext. 1176.

Where Does My Water Come From?

Our water comes from the Ohio River. Cranberry Township purchases its entire water supply – 862 million gallons last year – from West View Water, a municipal authority in Allegheny County. Cranberry has received a state Allocation Permit to use the Ohio as its source of drinking water. The Township's water supply, which includes provisions for substantial growth over the coming decade, is secured through a long-term agreement with West View, and we are now its biggest customer.

Before the water arrives in Cranberry, it undergoes a series of treatments at West View's plant on Neville Island. After screening at the plant's intake, the water goes through a mixing chamber where treatment chemicals coagulate unwanted particles. Those particles then settle to the bottom in a clarifier tank, followed by activated carbon filtration to remove any remaining particles, odors, colorants, or anything else affecting its taste. Finally, a disinfectant is added to kill bacteria; the water passes through an ultraviolet light disinfection system; fluoride is added; and its pH level is stabilized with sodium hydroxide before powerful pumps send the water on its way to Cranberry.

Community Participation

We encourage public participation on issues concerning our water and wastewater system. Meetings of the Cranberry Township Board of Supervisors are normally scheduled on the first and last Thursday of each month at 6:30 p.m. in the Cranberry Township Municipal Center, 2525 Rochester Road. Check the Cranberry Township Web site (www.cranberrytownship.org) or call the Customer Service Center at 724-776-4806, ext. 5, to confirm meeting times. Your input is always welcome.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water supplied by public water systems. For bottled water, U.S. Food and Drug Administration regulations establish limits for contaminants in order to provide the same level of protection. However, even good drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. But the presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases radioactive material, as well as substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at 800-426-4791.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of fresh water that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit used to produce one half-gallon of orange juice; 37 gallons of water are used to grow, produce, package, and ship the beans in a cup of coffee; 264 gallons of water are required to produce one quart of milk; and 4,200 gallons of water are required to produce two pounds of beef.

Here in Cranberry, our daily direct use averages 85 gallons per person. Globally, the average individual uses only about one-third that amount for cooking, washing, cleaning, and drinking. With water use increasing six-fold in the past century, the demand for fresh water is rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to www.h2oconserve.org, or visit www.waterfootprint.org to see how the water footprints of other nations compare.

Peaking and Leaking

In the last quarter of 2008, we learned that the level of trihalomethanes, or THMs, in the Township's water supply was 0.082 parts per million, just above the Department of Environmental Protection's newly reduced limit of 0.080. Although our average level was actually a little below that threshold, the new rules were based on the peak, rather than the average level of THMs found within the system. Until then, the limit had been 0.100.



THMs are byproducts of chlorination, and they're present in every municipal water system. But concerns about their long-range health implications prompted the EPA, out of an abundance of caution, to lower the allowable level by 20 percent. That change order, which was issued several years ago, came into effect last summer and put most of the communities in our area, including Cranberry, into "Tier Two" violation status, and DEP required all of the affected water companies to notify their customers about it.

Even before EPA announced the lower allowable level for THMs, Cranberry had been at work finding ways of reducing the THMs in its water system by shortening the time that water remains in storage tanks and pipelines where THMs can build up. So flushing schedules were accelerated; agitators were added to keep the water moving in tanks; and then last summer, West View Water changed the disinfectant it used to treat the Township's water supply.

It now appears that the strategy worked. The level of THMs in Cranberry's water supply is now well within compliance limits, and we will continue working to keep it that way.

We're also taking a more aggressive approach to finding and repairing leaks in our 170-mile distribution network. Right now, we lose an average of nine percent of the water we buy from West View Water. That's a lot, but it's much less than average and way less than many of the older communities in the area, which lose as much as half the water they buy.

Some of Cranberry's loss is from line flushing and fire fighting. But most of it is from leaks. So for the past few years, we've brought in a consultant who has gone over the entire system with a sophisticated listening device. Every year he has identified leaks that save the Township more than \$100,000 in lost water. So this year, we're having him go over our system twice; that way, no leak will go undetected for more than six months, and we will save even more.

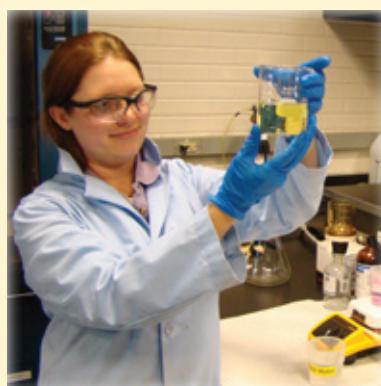
One other area of concern is relatively new: it has to do with the level of solids dissolved in the water used to recover natural gas from the Marcellus Shale layer that runs under much of Pennsylvania. Municipal wastewater treatment plants are designed to remove biological contaminants – not the minerals and chemicals used to fracture shale under high pressure. So finding ways to effectively treat and safely dispose of process water used in drilling is important to us because much of that water could otherwise end up in the Ohio, which is the source of Cranberry's water supply.

DEP and the Pennsylvania General Assembly are now looking at different approaches to mitigating the risks associated with gas recovery operations. We hope they find a way that will give us the benefit of both abundant natural gas and a safe, clean water supply.

Cranberry Township Board of Supervisors

Vulnerable Individuals

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as cancer patients undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791 or www.epa.gov/safewater/hotline/.



Lead and Drinking Water

Cranberry is required to test for lead in its water every three years. The last time we did it was 2007, and it showed no detectable lead presence. We will be doing another test this year, although we expect the same result. The reason we test is because elevated levels of lead can cause serious health problems, especially in pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and plumbing in older homes. Many homes built in the early 1900s used lead pipes for interior plumbing. Lead piping was also used for many service connections that join homes to public water supplies. That's why the West View test results shown here – which were conducted at the homes of their customers – indicated a small amount of lead.

In 1986, a nationwide ban restricted the use of lead in association with drinking water supplies, and much of Cranberry's home construction took place after that ban went into effect. So while we are responsible for providing high-quality drinking water, we can't control the materials which were used in home plumbing years ago. However, you can minimize the potential for lead exposure in an older home by flushing the tap for 30 to 120 seconds before drinking or cooking. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Monitoring Violation

Last year West View Water Authority incurred a late reporting violation for not submitting the results of arsenic monitoring within the required time period. Arsenic was not detected in the sample and therefore did not exceed drinking water standards.

New Arsenic Regulation

Last year our test for arsenic showed no detectable level in Cranberry's drinking water. In those areas where arsenic contamination is found, it can result from either natural or human activities. Volcanic activity, erosion of rocks and minerals, and forest fires are natural sources that can release arsenic into the environment. Some areas of the country have unusually high natural levels of arsenic in rock, which can lead to unusually high levels of arsenic in their water.

In January 2001, the U.S. EPA lowered the arsenic Maximum Contaminant Level (MCL) from 50 to 10 ppb in response to new and compelling research linking high arsenic levels in drinking water with certain forms of cancer. All water utilities were required to implement this new MCL in January 2006.

Although about 90 percent of the arsenic used by industry is for wood preservative purposes, it is also used in paints, drugs, dyes, soaps, metals, and semiconductors. Agricultural applications, mining, and smelting also contribute to arsenic releases. Arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur (inorganic arsenic) or combined with carbon and hydrogen (organic arsenic). Organic forms are usually less harmful than inorganic forms.

For a more complete discussion, visit the U.S. EPA's arsenic Web site at www.epa.gov/safewater/arsenic.html.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Lorin F. Meeder, Environmental Programs Coordinator, at 724-776-4806, ext. 1176.



Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water.

The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES										
				Cranberry Township		West View Water Authority				
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines (ppm)		2009	[4]	[4]	NA	NA	1.01	1.01–2.01	No	Water additive used to control microbes
Chlorine (ppm)		2009	[4]	[4]	NA	NA	0.73	0.73–1.41	No	Water additive used to control microbes
Haloacetic Acids [HAA] (ppb)		2009	60	NA	17	12–20	11.5	7.7–14.7	No	Byproduct of drinking water disinfection
Nitrate (ppm)		2009	10	10	NA	NA	0.7	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)		2009	80	NA	45	37–58	29.5	16.7–47	No	Byproduct of drinking water chlorination
Turbidity (NTU)		2009	TT	NA	NA	NA	0.09	ND–0.09	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

				Cranberry Township		West View Water Authority				
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)		2007	1.3	1.3	0.19	0/30	0.1	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)		2007	15	0	ND	0/30	3.2	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.