**2009 Water Quality Monitoring**

The tables below show the results of our required monitoring for the period of January 1 to December 31, 2009. The tables list only drinking water contaminants that were detected during 2009 or in the last round of sampling. The state requires 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 results are included, along with the year in which the sample was taken. There were no MCL or monitoring violations during 2009.

**Drinking Water Standards and Quality Assurance**

Under federal and state laws and regulations including the Safe Drinking Water Act (SDWA), lists of contaminants and their allowable levels in drinking water supplies have been developed along with treatments that water systems must use to remove these substances. These limits are very stringent and are designed to protect the public from known adverse health effects. We test for a large number of parameters to control our treatment processes and monitor water characteristics throughout our system. We share a laboratory with the Williamsport Sanitary Authority along with a staff that includes laboratory and compliance supervisors plus laboratory and field technicians. We follow established laboratory quality assurance and quality control standards and are PaDEP accredited for the analyses we perform. We contract work to other accredited laboratories for samples that are analyzed less frequently.

This report conforms to the SDWA requirement that water suppliers provide detailed water quality information to their customers including regulated contaminants detected in the water. We are proud to report that the water supplied by the Williamsport Municipal Water Authority meets all established water quality standards.

**Contamination Potential**

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants 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, and 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 storm-water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm run-off, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. EPA enforces regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at (800) 426-4791.

**Terms and Abbreviations**

**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.

**MRDL (Maximum Residual Disinfectant Level):** The level of a drinking water disinfectant which there is no known or expected risk to health. MRDLs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the required synthetic organic chemicals (SOCs) indicated no detectable findings. The PaDEP issued waivers from continued SOC testing through 2010 because our sources are not susceptible to this type of contamination.

<table>
<thead>
<tr>
<th>Substance (Unit of Measurement)</th>
<th>Year Sampled</th>
<th>MCL</th>
<th>MCLG</th>
<th>Amount Detected</th>
<th>Range (Low-High)</th>
<th>Violation</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium (ppm)</td>
<td>2005</td>
<td>2</td>
<td>2</td>
<td>0.088</td>
<td>NA²</td>
<td>No</td>
<td>No Discharge of drilling wastes; Discharge from metal refiners; Erosion of natural deposits</td>
</tr>
<tr>
<td>Chlorine-Distribution System (ppm)</td>
<td>2009</td>
<td>MRDL=4</td>
<td>MRDLG=4</td>
<td>1.08</td>
<td>0.87-1.25</td>
<td>No Water additive used to control microbes</td>
<td></td>
</tr>
<tr>
<td>Chlorine-Entry Point (ppm)</td>
<td>2009</td>
<td>NA²</td>
<td>NA²</td>
<td>1.10</td>
<td>1.10-1.70</td>
<td>No</td>
<td>No Water additive used to control microbes</td>
</tr>
<tr>
<td>Fluoride (ppm)</td>
<td>2009</td>
<td>2</td>
<td>2</td>
<td>0.93</td>
<td>0.77-1.09</td>
<td>No</td>
<td>Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories</td>
</tr>
<tr>
<td>Haloacetic Acids (HAA) [Fiva] (ppb)</td>
<td>2009</td>
<td>60 ⁴</td>
<td>NA²</td>
<td>23.0</td>
<td>11.5-24.0</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Nitrate (ppm)</td>
<td>2009</td>
<td>10</td>
<td>10</td>
<td>0.44</td>
<td>NA²</td>
<td>No</td>
<td>Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits</td>
</tr>
<tr>
<td>TOC-Raw Water [Total Organic Carbon] (ppm)</td>
<td>2009</td>
<td>TT ³</td>
<td>NA²</td>
<td>0.9</td>
<td>0.70-0.9</td>
<td>No</td>
<td>Naturally present in the environment</td>
</tr>
<tr>
<td>TTHMs [Total Trihalomethanes] (ppb)</td>
<td>2009</td>
<td>80 ⁴</td>
<td>NA²</td>
<td>33.5</td>
<td>15.2-46.5</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Turbidity (NTU) *¹</td>
<td>2009</td>
<td>TT ³</td>
<td>NA²</td>
<td>0.09</td>
<td>0.01-0.09</td>
<td>No Soil runoff</td>
<td></td>
</tr>
</tbody>
</table>

* Only one sample required.

¹ The minimum chlorine residual required at the entry point is 0.2 mg/L.

² The raw water TOC level is less than 2.0 mg/L; therefore, no TOC removal is required.

³ Compliance is based on the running annual average.

⁴ Turbidity is a measure of the cloudiness of the water and it is required to be monitored because it is a good indicator of the effectiveness of the water filtration system. The rule requires that 95% of all measurements taken must be less than or equal to 0.5 NTU and no measurement may be greater than 1 NTU.

During 2009, 100% of all the samples taken to measure turbidity met these water quality standards.
Bacteria Sampling
The WMWA is required to analyze a minimum of 60 coliform bacteria samples per month collected from the distribution system. During 2009, we tested 720 samples for coliform bacteria. In that time, none of the samples were positive for the bacteria. Federal regulations require that drinking water samples testing positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliforms are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicated no fecal coliform was present in our water.

Giardia and Cryptosporidium in Drinking Water
Giardia and Cryptosporidium are microscopic organisms that, when ingested, can result in diarrhea, cramps, fever, and other gastrointestinal symptoms. Most people readily recover from the symptoms, but the parasites can cause more serious illness in people with compromised immune systems. Giardia and Cryptosporidium come from human and animal waste and are commonly found in Pennsylvania streams and rivers. The WMWA effectively controls and removes these microbial organisms by using a multiple barrier approach including a watershed management program, monitoring of the raw water supply, and filtration and disinfection in our water treatment plant. During 2009, we tested 6 raw water samples for Giardia and Cryptosporidium and none of the samples were positive for the parasites.

Unregulated Contaminant Monitoring Regulation
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In 2001, we sampled quarterly for the 12 contaminants in the EPA Unregulated Contaminant Monitoring List 1 and no detects were found. In December 2009, we completed the first round of sampling for the 10 contaminants on the UCMR 2 list and no detects were found. For more information on the monitoring results, please contact Mr. Walter A. Nicholson, Director of Operations, at (570) 323-6148 or by mail at 253 West Fourth Street, Williamsport, PA 17701.

Special Health Information
Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can 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.

Lead in Drinking Water
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Williamsport Municipal Water Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at http://www.epa.gov/safewater/lead.

For More Information
If you need additional information about the quality of your drinking water or have questions about this report, please contact Mr. Walter A. Nicholson, Director of Operations, at (570) 323-6148 or by mail at 253 West Fourth Street, Williamsport, PA 17701. Or you may visit us online at www.wmwa-wsa.org.