

*Annual*  
**WATER**  
**QUALITY**  
**REPORT**  
*Reporting Year 2012*



*Presented By* \_\_\_\_\_  
Ambridge Water Authority

PWS ID#: 5040008

## There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

## Where Does My Water Come From?

Ambridge Water Authority (AWA) customers are fortunate because they enjoy an abundant water supply from an outstanding source. The water treatment plant draws water from Service Creek Reservoir, a spring-fed, surface-water-influenced upland reservoir containing 3.5 billion gallons of water, which may well be the highest-quality source water in western Pennsylvania. This lake, created by AWA and built in the early 1950s, is dedicated exclusively to providing water for the residents within our service area and our other customers. The water is piped over seven miles to the treatment plant. Here, the water propels a turbine that produces about 25 percent of the electricity needed to operate the plant in an efficient manner. During 2012, our treatment facility provided an average of 4.6 million gallons per day of clean drinking water. Water is pumped to service Ambridge, Harmony Township, Economy, Bell Acres, Baden, and parts of New Sewickley Township, as well as to Edgeworth Municipal Authority (which also serves Leet Township and Leetsdale), with our service population being almost 30,000 individuals. Interconnections with West View Water Authority and Conway Borough provide a backup supply of water for emergencies. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed site at [www.epa.gov/surf](http://www.epa.gov/surf).

## 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 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 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, and 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.

## Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Water Treatment Process

The treatment process for our water consists of a series of steps. First, raw water is drawn from Service Creek Reservoir, pretreated with a disinfectant, and sent to the water purification plant. The water goes into a mixing tank where a coagulant is added, which causes small particles in the water to adhere to one another (called floc), making them heavy enough to settle to the bottom of sedimentation basins for removal. Caustic soda is added to adjust pH, and chlorine is added for disinfection. The water is filtered through layers of fine coal and filter-grade sand. As this process is completed, turbidity is reduced and clear water emerges. A corrosion inhibitor (used to protect distribution system pipes) is added. Finally, chlorine is added again as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, using the smallest amount necessary to protect the safety of your water without compromising taste.) The water is then pumped to sanitized underground reservoirs, water towers, and into your home or business.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the 3rd Tuesday of each month beginning at 6 p.m. in Council Chambers, 600 11th Street, Ambridge PA.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Mary Hrotic, General Manager, at (724) 266-4847.

## Important 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 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 <http://water.epa.gov/drink/hotline>.

## Source Water Assessment

Spotts, Stevens, and McCoy, Inc., an environmental company under contract with the Pennsylvania Department of Environmental Protection (PA DEP), performed a source water assessment in accordance with the Source Water Assessment Plan in 2002. This assessment was done in accordance with requirements under the Safe Drinking Water Act. Land use is an important consideration in identifying potential point and nonpoint sources of contamination. Point sources are those that emanate from known discharge locations such as an industrial outfall. Nonpoint sources are the runoff that occurs naturally through rainfall and snowmelt, picking up potential contaminants such as herbicides or farming by-products, such as manure. In addition to point and nonpoint sources, accidental spills and known or unknown sources of contamination may occur, such as a spill during delivery of home heating oil or leakage from pipelines or gas or oil wells. These contamination sources are unlikely to occur for our water because of the relatively undeveloped nature of our watershed. Watershed criteria that do result in a high risk of contamination are transportation corridors, residential development, agriculture, and pipelines. For more information, access the PA DEP web site at [www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/SourceAssessment/default.htm](http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/SourceAssessment/default.htm) for a summary of this report and for information regarding the Source Water Protection Program. You may also contact the DEP regional office at (412) 442-4000.



## What is the typical per-day water usage?

While usage varies from community to community and person to person, on average, Americans use 183 gallons of water a day for cooking, washing, flushing, and watering purposes. The average family turns on the tap between 70 and 100 times daily. About 74% of home water usage occurs in the bathroom, about 21% in the laundry room, and about 5% in the kitchen.

## Why do water pipes tend to break in winter?

Liquids generally contract when frozen and become more dense; however, the unique qualities of water cause it to expand by up to 9% when it freezes. That is why water pipes burst when temperatures reach the freezing mark.

## How much water is used to create the food we eat each year?

The average American consumes 1,500 pounds of food each year; 1,000 gallons of water are required to grow and process each pound of that food. Thus, 1.5 million gallons of water is invested in the food eaten annually by just one person! This 200,000-plus cubic feet of water per person is enough to cover a football field four feet deep.

## Is it okay to use hot water from the tap for cooking and drinking?

No, ALWAYS use cold water. Hot water is more likely to contain rust, copper, and lead from household plumbing and water heaters. These harmful substances can dissolve into hot water faster than they do into cold water, especially when the faucet has not been used for an extended period of time.

## What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, do not use any container with markings on the recycle symbol showing 7 PC (which is the code for BPA). You could also consider using stainless steel or aluminum containers that have BPA-free liners.

## How much water is used in the shower?

A 10-minute shower can take 25 to 50 gallons of water. High-flow shower heads allow a flow of 6 to 10 gallons a minute. Low-flow shower heads can cut the rate in half without reducing pressure.

## 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 tables below show only those contaminants that were detected in the water.

The state requires us to monitor for certain substances less often 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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Barium</b> (ppm)	2012	2	2	0.023	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Chlorine [Distribution]</b> (ppm)	2012	[4]	[4]	0.77	0.44–0.77	No	Water additive used to control microbes
<b>Chlorine [Entry Point]</b> <sup>1</sup> (ppm)	2012	Min RDL: 0.2	NA	0.9	0.9–1.2	No	Water additive used to control microbes
<b>Fluoride</b> (ppm)	2012	2	2	0.124	0.124–0.124	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2012	60	NA	13.4	13.4–23.3	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2012	10	10	0.37	0.37–0.37	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2012	80	NA	49.85	19.7–69.2	No	By-product of drinking water disinfection
<b>Total Coliform Bacteria</b> (# positive samples)	2012	More than 1 positive monthly sample	0	0	NA	No	Naturally present in the environment
<b>Total Organic Carbon</b> (ppm)	2012	TT	NA	2.4	2.2–2.8	No	Naturally present in the environment
<b>Turbidity</b> <sup>2</sup> (NTU)	2012	TT<1 NTU	NA	0.29	0.04–0.29	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	2012	TT=95% of samples<0.3 NTU	NA	100	NA	No	Soil runoff

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2010	1.3	1.3	0.149	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Lead</b> (ppb)	2010	15	0	11	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

## UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane-THM (ppm)	2012	0.00728	0.00406–0.0105	By-product of drinking water disinfection
Chlorodibromomethane-THM (ppm)	2012	0.000835	ND–0.00167	By-product of drinking water disinfection
Chloroform-THM (ppm)	2012	0.0355	0.0139–0.0571	By-product of drinking water disinfection
DOC <sup>3</sup> (ppm)	2012	3.19	2.09–4.29	NA
SUVA <sup>4</sup>	2012	0.99	0.00904–1.97	NA
UV254 <sup>5</sup>	2012	1.48	0.025–2.93	NA

<sup>1</sup>The amount-detected value for chlorine [entry point] represents the lowest level that was detected.

<sup>2</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

<sup>3</sup>Dissolved organic carbon (DOC) is the accumulation of broken-down organic matter. We test this for the purpose of using it in the SUVA calculation.

<sup>4</sup>Specific Ultra-Violet Absorbance at 254 nm wavelengths (DOC/UV254 x 100 = ppm). This parameter is an alternate method for determining total organic carbon (TOC).

<sup>5</sup>Ultra-Violet Absorbance at 254 nm wavelengths. We test this for the purpose of using it in the SUVA calculation.

## Definitions

**AL (Action Level):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that 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.

**Min RDL (Minimum Residual Disinfectant Level):** The minimum level of residual disinfectant required at the entry point to the distribution system.

**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.