

# Annual Drinking Water Quality Report

## Borough of Berlin Water Department

### For the Year 2010, Results from the Year 2009

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Our drinking water source is wells. Our five wells draw groundwater from the Mount Laurel-Wenonah, Cohansey and PRM Aquifers. Our wells range in depth from 453 to 746 feet deep. Our water system purchases a limited amount of water from the New Jersey American Water Company. The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Assessment Report and Summary for this public water system, which is available at [WWW.state.nj.us/dep/swap](http://WWW.state.nj.us/dep/swap) or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. You may also contact your public water system at 856-767-0056 to obtain information regarding your water system's Source Water Assessment. This water system's source water susceptibility ratings and a list of potential contaminant sources is attached.

**Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).**

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
<b>***Radioactive Contaminants:</b>						
Alpha emitters Test results Yr. 2009	No	Range = 2.0 – 3.9	pCi/1	0	15	Erosion of natural deposits.
Combined Radium 228 & 226 Test results Yr. 2009	No	Range = ND – 2.4 Highest = 2.4	PCi/L	0	5	Erosion of natural deposits.
<b>***Inorganic Contaminants:</b>						
Barium Test results Yr. 2008	No	Range = 0.06-0.07 Highest level detected = 0.07	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper Test results Yr. 2008	No	0.13 No samples exceeded the action level	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride Test results Yr. 2008	No	Range = 0.2 – 0.3 Highest level detected = 0.3	Ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead Test results Yr. 2008	No	3 No samples exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
<b>***Volatile Organic Contaminants / Disinfection Byproducts</b>						
TTHM [Total trihalomethanes] Test results Yr. 2009	No	Range = 7 - 27 Highest Avg. = 9	ppb	0	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2009	No	Range = ND - 8 Highest Avg. = 20	ppb	0	60	By-product of drinking water disinfection

Regulated Disinfectants	Level Detected	MRDL	MRDLG
Chlorine	Range = 0.3 – 0.4	4.0 ppm	4.0 ppm

The Berlin Water Department and the New Jersey American Water Company routinely monitor for contaminants in your drinking water according to Federal and State laws. The tables show the results of that monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2009. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative, are more than one year old.

## **DEFINITIONS**

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is 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.

Maximum Contaminant Level Goal -The "Goal"(MCLG) is 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.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Goal (MRDLG): 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 contamination

**Lead:** 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 Berlin Borough Water Department is responsible for providing high quality drinking water, but can not 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 and 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 <http://www.epa.gov/safewater/lead>

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained from the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 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 the 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 result from 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-water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.
- Pesticides and herbicides, which may come from a variety of sources such as; agriculture, urban storm-water runoff, and residential uses.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

To insure the continued quality of our drinking water supply we use sodium hypo-chloride for disinfection. We use aeration, filtration to guarantee the removal of potential contaminants, and we also do Ph adjustment.

The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals and synthetic organic chemicals. Our system received monitoring waivers for asbestos and synthetic organic chemicals.

## New Jersey American Water 2009 Test Results Delaware River Regional WATER Treatment Plant

Contaminant	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source
<b>Microbiologicals:</b>						
Turbidity	No	Range = 0.05 – 0.15 Highest detect = 0.07  100% of samples ,0.3	ntu	n/a	TT = % of samples <0.3 NTU	Soil runoff, Naturally present in the environment
Total Organic Carbon	No	Range = 28% - 70% Lowest removal level= 29%		n/a	TT >35-45% removal	Soil runoff, Naturally present in the environment
<b>Inorganics:</b>						
Barium	No	0.016	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nickel	No	1.4	ppb	100	100	Erosion of natural deposits
Nitrate	No	1.2	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Treatment Byproducts</b>						
Bromate	No	Range = ND – 6 Highest detect = 6	ppb	N/A	10	By-products of drinking water ozonation
<b>Radioactives:</b>						
Alpha emitters	No	Range = ND - 11 Highest average = 11	pCi/1	0	15	Erosion of natural deposits
Combined radium	No	Range = ND – 5 Highest Average = 4	pCi/1	0	5	Erosion of natural deposits
Uranium	No	Range = ND – 14 Highest Average = 9	ug/L	0	5	Erosion of natural deposits

Unregulated Contaminant	Level Detected	Units of Measurement	MCL
Perfluorooctanoic Acid (PFOA)	Range = ND – 0.004 Average = 0.003	ppb	N/A

PFOA is a synthetic industrial chemical. There is currently no regulatory limit established for PFOA in drinking water. However, in February 2007 the NJ Department of Environmental Protection (NJDEP) issued a preliminary guidance level of 0.04 ppb. In order to assist the NJDEP in assessing the occurrence of this substance in NJ American Water began to monitor for PFOA in some of its systems. We are sharing the results in this report because we want to educate our customers about the quality of their drinking water. This proactive approach reinforces our continuing commitment to protect public health and provide quality drinking water and reliable service. For more information about PFOA, contact the NJDEP Bureau of Safe Drinking Water at 609-292-5550.

### IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

#### Monitoring Requirements Not Met for Borough of Berlin Water Dept.

The Berlin Borough water system violated drinking water requirements over the past years. Even though these were not emergencies, as our customers, you have a right to know what happened and what the borough is doing to correct these situations.

Berlin Borough is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not the drinking water meets health standards. During the second quarter of 2008 we did not monitor for Radionuclides. Beginning in 2004 through 2006, the borough had some issues with the number of samples we were required to take for Total Trihalomethanes (TTHMS) and Halocetic Acids 9 HAA5's) which are by-products of drinking water disinfection. DBP monitoring was a new requirement in 2004. Because of these issues the borough cannot be sure of the quality of your drinking water during these times. However, sampling performed before and after these dates show that the drinking water quality was well within the required health standards.

What should I do?

There is nothing you need to do at this time.

The table below lists the contaminant(s) the borough did not properly test for during the last year, how often the borough is supposed to sample for [this contaminant/these contaminants], how many samples the borough is supposed to take, how many samples that were taken, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

<b>Contaminant</b>	<b>Required sampling frequency</b>	<b>Number of samples taken</b>	<b>When samples should have been taken</b>	<b>When samples were taken</b>
Radionuclide	quarterly	1	2 <sup>nd</sup> quarter 2008	3 <sup>rd</sup> quarter 2008
DBP's	quarterly	0	2006	Not Completed
HAA5	quarterly	0	1 <sup>st</sup> quarter 2004	Not Completed

Radiologicals: Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCLs over many years may have an increased risk of getting cancer

Some people who drink water containing Total Trihalomethanes (TTHMs) and /or Haloacetic Acids (HAA5s) in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

What is being done?

The borough constantly monitors for various contaminants in the water supply to meet all regulatory requirements. Starting in 2004 the borough had some issues with the number of samples that were required to be taken for Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s), which are by-products of drinking water disinfection. In the year 2004 this was a new requirement. The borough has been working with the New Jersey Department of Environmental Protection – Bureau of Safe Drinking Water to resolve this issue. The borough is now taking the correct number of samples and all of our sample results have always been in compliance

For more information, please contact Mark Mauger at 856-767-7777, extension 1316, email at [dpwsupt@berlinnj.org](mailto:dpwsupt@berlinnj.org) or 59 S. White Horse Pike, Berlin, NJ 08009.

This notice is being sent to you by Berlin Boro Water Dept. State Water System ID#: 0405001.

Date distributed: 06/21/2010.

We at The Berlin Borough Water Department work hard to provide top quality water to every tap. The borough ask that all its customers help protect our water sources, which are the heart of our community, our way of life and our children's future. Thank you.