City of Bordentown Water Department

(PWS ID# 0303001)

2017 Annual Drinking Water Quality Report

Joseph D. Myers,
Commissioner "Public Property, Streets &Water"

We're pleased to present to you this year's Annual Drinking Water Quality Report.

This report is designed to inform you about the quality of the water and the services that the City of Bordentown Water Department delivers to you every day. Our constant goal is to provide you with a dependable supply of high-quality 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.

Where does my water come from?

The raw water we treat comes from four groundwater wells supplied from the Magothy-Raritan aquifer. The City does not use any other sources of supply. For 2017 we produced approximately 1.58 million gallons of high-quality drinking water for our customers on a daily basis.

How is my water treated?

The City of Bordentown water treatment plant uses a treatment process consisting of WRT radiological filtration, a packed tower aerator and disinfection, with pH adjustment and corrosion control treatment. In November 2015 a radium removal treatment process was added to assist in the removal of radioactive contaminants.

Where does my water come from?

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. The Bordentown Water Department routinely monitors for constituents in your drinking water, according to Federal and State laws. The table on the other side of this report shows the results of our monitoring for January 1st to December 31st, 2017. Drinking water, incl. bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of con- taminants does not necessarily mean your water poses a health risk. More information about contaminants and potential health effectscan be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Waived Requirements

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 has been granted a waiver for asbestos.

How do drinking water sources become polluted?

(NJDEP-required descriptive language)

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 materials, and can pick up substances resulting from human or animal 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, livestock operations, and wildlife.
- ***Inorganic contaminants,*** such as salts and metal which may be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil or 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.
- ***Radioactive contaminants,*** which may be naturally-occurring or be the result of oil and gas production and mining activities.
- ***Organic chemical contaminants,*** including synthetic or volatile organic chemicals, which may include pesticides and herbicides. They

Violations

ALE for LEAD: The Lead Action Level was exceeded during the Semi-annual monitoring period 7-01-2017 to 12-31-2017 for the following sample point ID: Distribution System. The 90th percentile value for seventy four (74) samples collected between 11-3-2017 and 11-29-2017 was 30 ppb which exceeded the action level of 15 ppb. Until further test results show we are at or below the action level (AL) of 15ppb we will continue semiannual sampling. A second round of sampling was performed in October 2017.

As part of our corrective action plan and consistent with NJDEP guidelines, homes were re-tested and all results from the re-testing came back with no action level exceedances; meaning, the City's re-testing of the original lead exceedances came back with no exceedances.

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 Bordentown Water Department 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 is available from the Safe Drinking Water Hotline or at **http://www.epa.gov/safewater/lead**.

People with Special Health Concerns

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).

City of Bordentown Water Department
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What if I have questions?

If you have any questions about this Consumer Confidence Report or concerning your water utility, please contact the City of Bordentown at 609-298-2121, ext. 5

We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled public meetings. They are held at 7:00 p.m. on the second Monday of each month at the Carslake Community Center, 207 Crosswicks Street in Bordentown. If you have questions regarding the source water assessment report or summary, please contact the NJDEP's Bureau of Safe Drinking Water at (609) 292-5550.

For more information...

Water quality - call the U.S. Environmental Protection Agency's Safe Drinking Water Hotline, 1-800-426-4791

State of New Jersey Department of Environmental Protection, Bureau of Safe Drinking Water:
www.state.nj.us/dep/watersupply
(609) 292-5550

Local drinking water quality - call the City of Bordentown Water Department at 609-298-2121, ext. 5

Mission Statement

We at the City of Bordentown Water Department work hard each day to provide high-quality water to every tap. We ask that all our customers help us protect and conserve our water resources, which are the heart of our community, our way of life, and our children's future.

City of Bordentown Water Department's 2017 Drinking Water Quality Results

Contaminant (Unit of measurement)	MCLG	MCL	Your Water	Range or Sample Date	Violation (Y/N)	Likely Source of Contamination	Potential Health Effects
Disinfectants & Disinfectant Byproducts (There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)							
Total Trihalo- Methanes (ppb)	n/a	80	8.9 (b)	0.9 - 8.9	No	By-product of drinking water disinfection.	Some people who drink water containing trihalomethanes 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.
Haloacetic Acids (ppb)	n/a	60	1.3 (b)	0.0 - 1.3	No	By-product of drinking water disinfection.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Radioactive Contaminants							
Alpha emitters (pCi/L)	0	15	<3 (a,b)	<3 - <3(e)	No	Erosion of natural deposits.	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 MCL over many years may have an increased risk of getting cancer.
Combined Radium (pCi/L)	0	5	0.84 (a,b)	ND – 1.43	No	Erosion of natural deposits.	Some people who drink water containing Radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Combined Uranium (ppb)	0	30	0.56 (a,b)	ND – 1.68	No	Erosion of natural deposits.	Some people who drink water containing uranium in excess of the MCL over many years could experience kidney damage.
Inorganic Contaminants							
Arsenic (ppb)	0	5	ND	8/7/17(d)	No	Erosion of natural deposits.	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Barium (ppm)	2	2	0.0016	8/7/17(d)	No	Discharge of drilling wastes; erosion of natural deposits.	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium (ppb)	4	4	0.5	ND - 0.5		Discharge from metal refineries and coal-burning factories or electrical, aerospace, and defense industries	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Cadmium (ppb)	5	5	0.33	8/7/17(d)	No	Corrosion of galvanized pipes; Erosion of natural deposits.	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Copper (ppm)	AL = 1.3	AL = 1.3	0.12 (90th percentile)	0 of 74 sites exceeded the AL 11/3/17 to 11/29/17 (c, d)	No	Corrosion of household plumbing systems; erosion of natural deposits. Leaching from wood preservatives.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their doctor.
Lead (ppb)	0	AL = 15	30 (90th percentile)	16 of 74 sites exceeded the AL 11/3/17 to 11/29/17 (c, d)	Yes	Corrosion of household plumbing systems, erosion of natural deposits.	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Mercury (ppb)	2	2	0.1	8/7/17(d)	No	Erosion of natural deposits.	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nitrate (as Nitrogen) (ppm)	10	10	3.2	10/8/17	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Nickel (ppb)	N/A	None	24.1	8/7/17 (c, d)	No	Erosion of natural deposits.	Nickel occurs naturally in the environment at low levels. Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition.
Selenium (ppb)	50	50	1.7	8/7/17 (d)	No	Discharge from petroleum and metal refineries, erosion of natural deposits, discharge from mines.	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
Chlorine Residual							
Chlorine (ppm)	MRDLG = 4.0	MRDL= 4.0	0.69 (ave.)	0.0 - 1.54	No	Water additive used to control microbes.	Some people who drink water containing chlorine well in excess of the MRDL could experience irritating effects in their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Microbiological Contaminants (A violation occurs when a routine sample and a repeat sample in any given month are total coliform positive, and one is also fecal coliform or E. coli positive.)							
Total Coliforms (# of positive monthly samples)	0	2	1 out of 257 samples	0-1	No	Naturally present in the environment.	Coliforms are bacteria that are naturally present in the environment. They are used as an indicator that other, potentially harmful bacteria may be present. If the MCL is exceeded, the water supplier must provide public notice.
Volatile Organic Chemicals (VOC's)							
Trichloroethylene (ppb)	0	5	1.0	ND - 1.0		Discharge from industrial processes and petroleum production.	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
1, 2 - Dichloroethane (ppb)	0	5	0.4	ND - 0.4		Discharge from industrial processes and petroleum production.	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
Cis-1,2-Dichloroethylene (ppb)	70	70	0.1	ND - 0.1		Discharge from industrial processes and petroleum production.	Some people who drink water containing cis-1,2- dichloroethylene in excess of the MCL over many years could experience problems with their liver.

Footnotes:
(a) The reported value is a "running annual average" of the quarterly samples taken.
(b) The reported value is the highest **locational** running annual average (LRAA) of samples taken.
(c) Copper, lead and nickel MCL's have not yet been established for community water systems. Currently, only Action Levels (AL) of 1.3 ppm for copper and 15 ppb for lead apply.
(d) The State allows monitoring for some contaminants every three years, since the concentrations do not change frequently. The latest sample dates are shown for these contaminants.
(e) Our water system failed to conduct monitoring for Total Halaocetic Acids (HAA5) on time. We are required to sample quarterly. Samples were collected during the monitoring period but submitted to NJDEP after the end of the monitoring period. We have recently implemented a new monitoring scheduling system which should prevent this type of monitoring oversight in the future.

GLOSSARY

- **Parts per million (ppm)**
One part per million is equivalent to a single penny in ten thousand dollars.
- **Parts per billion (ppb)**
One part per billion is equivalent to a single penny in ten million dollars.
- **Non-detects (ND)**
Laboratory analysis indicates that the contaminant is not present at a detectable level.
- **n/a = Not Applicable**
- **Action Level (AL)**
The concentration of a substance which, if exceeded, triggers the need for additional required treatment. Monitoring only of nickel is required.
- **Maximum Residual Disinfection Level Goal (MRDLG)** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Picocuries per liter (pCi/L)**
A measure of radioactivity.
- **Maximum Residual Disinfection Level (MRDL)**
The highest level of a disinfectant that is allowed in drinking water. There is convincing evidence that addition of a disin - fectant is necessary for control of microbial contaminants.
- **Maximum Contaminant Level Goal (MCLG)**
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allows for a margin of safety.
- **Maximum Contaminant Level (MCL)**
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 treat -ment technology.

Source Water Assessments

The New Jersey Department of Environmental Protection (NJDEP) in 2005 completed and issued the Source Water Assessment Report and Summary for our public water system. It is available at http://www.nj.gov/dep/watersupply/swap/index.html or by contacting the NJDEP, Bureau of Safe Drinking Water at (609) 292-5550. The list to the right provides the number of wells that have either a high (H), medium (M), or low (L) susceptibility rating for each of eight contaminant categories. The susceptibility ratings (in parentheses) for the four wells follow each contaminant category .

If a water system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, the DEP may change existing monitoring schedules based upon susceptibility ratings.

- **Pathogens (4 Wells-M):** Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.
- **Nutrients (4 Wells-H):** Compounds, minerals and elements (both naturally occurring and man-made) that aid plant growth. Examples include nitrogen and phosphorus.
- **Pesticides (4 Wells-L):** Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufactur-ing of pesticides. Examples include herbicides such as atrazine, and insecticides such as chloro-dane.
- **Radionuclides (2 Wells-H, 2 Wells-M):** Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.
- **Volatile Organic Compounds (4 Wells-H):** Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.
- **Inorganics (1 Well-H, 3 Wells-M):** Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.
- **Radon (4 Wells-M):** Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to http://www.nj.gov/dep/rpp/radon/index.htm or call 800-648-0394.
- **Disinfection Byproduct Precursors (3 Wells-H, 1 Well-M):** A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants used to kill pathogens (usually chlorine) react with dissolved organic material (leaves, etc.) in surface water.

Special Considerations Regarding Children, Pregnant Women, Nursing Mothers, and Others

Children may receive a slightly higher amount of a contaminant present in the water than do adults, on a body weight basis, because they may drink a greater amount of water per pound of body weight than do adults. For this reason, reproductive or developmental effects are used for calculating a drinking water standard if these effects occur at lower levels than other health effects of concern. If there is insufficient toxicity information for a chemical (for example, lack of data on reproductive or developmental effects), an extra uncertainty factor may be incorporated into the calculation of the drinking water standard, thus making the standard more stringent, to account for additional uncertainties regarding these effects. In the cases of lead and nitrate, effects on infants and children are the health endpoints upon which the standards are based.