



2023 Annual

# Water Quality Report

**Borough of Belmar Water  
Department**

PWS ID: NJ1306001

## Our Commitment to Quality

Once again, we proudly present our annual water quality report which details the results of water quality testing completed from January to December 2022. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Included in this report are details about where your water comes from, what it contains, and how our water quality results compare to federal and state standards.

We are pleased to tell you that we had no Safe Drinking Water Act violations again in 2022. We are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

We want you to be informed about your drinking water. For more information about this report, or for any questions relating to your drinking water, please call Public Works at 732-681-0452.

## Public Participation – How Can I Get Involved?

If you have questions or would like to become involved in discussions about your water quality, the Belmar Council meets on the 2nd and 4th Wednesday of each month at the Borough Hall, at 601 Main Street.

## How to Contact Us

The Borough of Belmar welcomes your comments and questions as they relate to the quality of your water. For more information about this report, or for any questions relating to your drinking water, please feel free to call 732-681-0452.

This report contains important information about your drinking water. If you do not understand it, please have someone translate it for you.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

## Where Does Our Water Come From?

Belmar Water Department is a public community water system consisting of 4 wells and 1 purchased surface water source. This system's source water comes from the Englishtown aquifer system.

## What's in the Source Water Before We Treat It?

In general, the sources of drinking water (both tap 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 can pick up substances resulting from the presence of animals or from human activities.

### Substances That May Be Present in Source Water Include:

- **Microbiological 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 **EPA's Safe Drinking Water Hotline at 1-800-426-4791**.

## Protecting Your Water Source

### What is S.W.A.P.

SWAP (Source Water Assessment Program) is a program of the New Jersey Department of Environmental Protection (NJDEP) to study existing and potential threats to the quality of public drinking water sources throughout the state. Sources are rated depending upon their contaminant susceptibility.

## Susceptibility Ratings for Borough of Belmar Water Sources

The table below illustrates the susceptibility ratings for the seven-contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report. Definitions, Source Water Assessment Reports and Summaries are available for public water systems 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.

	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection By-product Precursors		
Sources	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells - 4			4			4			4			4		4				4			4		4	
GUID - 0																								
Surface water intakes - 0																								

## Contaminant Categories

DEP considered all surface water highly susceptible to pathogens; Therefore, all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a 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, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Source water protection is a long-term dedication to clean and safe drinking water. It is more cost effective to prevent contamination than to address contamination after the fact. Every member of the community has an important role in source water protection. NJDEP recommends controlling activities and development around drinking water sources whether it is through land acquisition, conservation easements or hazardous waste collection programs. We will continue to keep you informed of SWAP's progress and developments.

## Lead Education Statement

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. Borough of Belmar 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 or at <http://www.epa.gov/safewater/lead>.

## Wise Water Use Tips

Wise water use is an important first step in protecting our water supply. Such measures not only save the supply of our source water but can also save you money by reducing your water bill. Here are a few suggestions:

### Wise water tips you can use inside your home:

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices in faucets, toilets and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers.
- Do not let the water run while shaving or brushing teeth.
- Soak dishes before washing.
- Run the dishwasher only when full.

## Sources of Information:

- **U.S. Environmental Protection Agency Safe Drinking Water Hotline:** 1-800-426-4791
- **New Jersey Department of Environmental Protection Bureau of Safe Drinking Water:** (609) 292-5550
- **New Jersey Board of Public Utilities:** (973) 648-2350  
Two Gateway Center, Newark, NJ 07102
- **Division of Customer Relations:** 1-800-624-0241

## How Do I Read the Table of Detected Contaminants?

Starting with the **Contaminant**, read across from left to right. A “**Yes**” under **Compliance Achieved** means the amount of the substance met government requirements. The column marked **MCLG**, Maximum Contaminant Level Goal, 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. The shaded column marked **MCL**, Maximum Contaminant Level, 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. The shaded column marked **Range Detected** shows the highest and lowest test results for the year. The column marked **Highest Level Detected** shows the highest test results during the year. **Typical Source** shows where this substance usually originates. Compare the Range Detected values with the MCL column. To be in compliance, the Highest Level Detected must be lower than the MCL standard. Those substances not listed in the table were not found in the treated water supply.

As you can see from the table, our system had no MCL violations again this year. The footnotes and the definitions below will help you interpret the data presented in the Table of Detected Contaminants.

## Table Definitions

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

- **MRDL (Maximum Residual Disinfectant Level):** The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **NA:** Not Applicable
- **ND:** Not Detected
- **90th Percentile Value:** Of the samples taken, 90% of the values of the results were below the level indicated in the table.
- **NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water.
- **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).
- **pCi/L (picoCuries per liter):** Measurement of the natural rate of disintegration.
- **RUL:** Recommended upper limit
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

## Water Quality Statement

The data presented in the Table of Detected Contaminants is the same data collected to comply with U.S. Environmental Protection Agency and New Jersey state monitoring and testing requirements. We have learned through our testing that some contaminants have been detected, however, these contaminants were detected well below the levels set by the EPA to protect public health. To assure high quality water, individual water samples are taken each year for chemical, physical and microbiological tests. Tests are done on water taken at the source, from the distribution system after treatment and, for lead and copper monitoring, from the customer's tap. Testing can pinpoint a potential problem so that preventive action may be taken. 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.

*Drinking water, including bottle water, may reasonably be expected to contain at least a small amount of contaminants. The presence of contaminants does not necessarily indicate that water is a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's safe drinking water hotline (1-800-426-4791).*

## Water Quality Results

### Vulnerable Populations Statement

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune 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 microbial pathogens are available from the Safe Drinking Water Hotline (1-800-426-4791).

### Regulated Substances

Contaminant	Units	MCL	MCLG	Range Detected	Highest Level Detected	Compliance Achieved	Typical Source
<b>Inorganic Chemicals</b>							
Fluoride <sup>1</sup>	ppm	2	2	ND to 0.8 N/D	.8 N/D	Yes	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrate	ppm	10	10	<0.1 0.4	<0.1 0.05 - 0.4	Yes	Runoff from fertilizer use; Industrial or domestic wastewater discharges; Erosion of natural deposits
Total Chromium	ppb	100	100	<.001	<.001	yes	Discharge from steel and pulp mills. Erosion of natural deposits.
<b>Treatment By-products</b>							
<b>Treatment By-products Stage-2 - NJAW Co. (October - March)</b>							
Total Trihalomethanes [THMs] - Chloramines	ppb	TT: Results > = 0.2	NA	1.05 - 2.99	1.05 <sup>2</sup>	Yes	By-product of drinking water disinfection
Five Haloacetic Acids [HAA5]	ppb	60	NA	N/A	N/A	Yes	By-product of drinking water disinfection
<b>Treatment By-products Stage-2 - Belmar Water (April - September)</b>							
Total Trihalomethanes [THMs]	ppb	80	NA	1.06 - 4.23	1.8 <sup>3</sup>	Yes	By-product of drinking water disinfection
Five Haloacetic Acids [HAA5]	ppb	60	NA	0.005 to 0.007	.007 <sup>3</sup>	Yes	By-product of drinking water disinfection
<b>Microbiology</b>							
Total Coliform	Cfu	Coliform detected no more than 5% of monthly samples	0	NA	0	yes	Naturally presented in Environment
<b>Treatment By-products Precursor Removal</b>							
Total Organic Carbon	ppm	TT: >35% Removal	NA	29% - 63%	63%	Yes	Naturally present in the environment
<b>Disinfectants</b>							
Chlorine	ppm	MRDL = 4	MRDLG = 4	0.7 to 1.3	1.3	Yes	Water additive used to control microbes
Chloramines	ppm	MRDL = 1	MRDLG = 4	0.7 to 1.1	1.1	Yes	Water additive used to control microbes
Chlorite <sup>10</sup>	ppm	MRDL = 1	MRDLG = 0.8	ND to 0.69	.69	Yes	By-product of drinking water disinfection
Chlorine Dioxide	ppm	MRDL = 800	MRDLG = 800	10 to 620	620	Yes	Water additive used to control microbes
<b>Radiological Substances (2020)</b>							
Alpha Emitters <sup>9</sup>	pCi/L	15	0	3.76	3.76	Yes	Erosion of natural deposits
Combined Radium 226 and 228	pCi/L	5 <sup>4</sup>	0	<1	<1	Yes	Erosion of natural deposits
<b>Tap water samples were collected for lead and copper analysis from homes in the service area</b>							
Contaminant	Units	Action Level	MCLG	Amount Detected (90 <sup>th</sup> percentile)	Homes Above Action Level	Compliance Achieved?	Typical Source
Copper 2020 <sup>5</sup>	ppm	1.3	1.3	0.2	0	Yes	Corrosion of household plumbing systems
Lead 2020 <sup>5</sup>	ppb	15	0	<0.002	0	Yes	Corrosion of household plumbing systems

Those substances not listed in this table were not found in the treated water supply.

**Water Testing for Lead** – Call us at 732-681-0452 to find out how to get your water tested for lead. Testing is essential because you cannot see, taste or smell lead in drinking water.

Sample results in red indicate higher readings from NJAW Co.

Sample results in black indicate higher readings from Borough of Belmar water (April - September)

## Secondary Contaminants

	Units	RUL	Amount Detected
Iron <sup>6</sup>	ppm	0.3	0.10 to 0.25
Manganese <sup>7</sup>	ppm	0.05	ND to <0.03
Sodium <sup>8</sup>	ppm	50	27.4 to 46
Hardness	ppm	250	52 to 80
Aluminum	ppm	0.05	ND to 0.02

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### Unregulated Contaminant Monitoring Rule 2022

New Jersey American Water and the Borough of Belmar participated in the unregulated contaminant monitoring rule. Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. For testing conducted in the Coastal North system which is drinking water that is supplied to Belmar residence during the months of October through March, the following substances were found:

Contaminant	Unit	MRL	Highest Level Detected	Range Detected	Use of Environmental Source
Manganese	ppb		73	ND to 73	Naturally present in the environment; Used in steel production, fertilizer, batteries and fireworks; Drinking water and wastewater treatment chemical
Germanium	ppb		0.32	ND to 0.32	

### N.J. American Water - Per- and Polyfluoroalkyl Substances

Per- and Polyfluoroalkyl Substances (PFAS) are man made substances used in a variety of products such as: stain resistant fabric, non - stick coatings, firefighting foam, paints, waxes, and cleaning products. They are also components in some industrial processes like electronics manufacturing and oil recovery. The New Jersey Department of Environmental Protection (NJDEP) has begun regulating some of these compounds, establishing a Maximum Contaminant Level (MCL) for Perfluoro - nonanoic Acid (PFNA) in 2019. While all other PFAS are not regulated, the Borough of Belmar recognizes the importance of testing for these contaminants. Compounds detected are tabulated below, along with typical sources. EPA has announced that they plan on establishing a lower Maximum Contaminant Level (MCL) for Perfluoro - nonanoic Acid (PFNA) in 2023 to 4 parts per trillion (PPT).

#### Perfluorinated Compounds 2022

Parameter	Unit	Highest Level Detected	Range Detected	Typical Source
Perfluoro - octanoic Acid (PFOA)	ppt	5.5	4.8 – 5.5	Used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon) firefighting foam, cleaners, cosmetics, lubricants, paints, polishes, adhesives, and photographic films.
*PFOA has a proposed MCL of 4 ppt				
Perfluoro - pentanoic Acid (PFOS)	ppt	3.8	2.7 – 3.8	Manmade chemical: used in products for stain, grease, heat and water resistance.
** PFOS has a proposed MCL of 4 ppt				
Perfluoro - nanoic Acid (PFNA)	ppt	N/D	N/D	Manmade chemical: used in products for stain, grease, heat and water resistance.
*** PFNA has a proposed MCL of 4 ppt				



## UNREGULATED CONTAMINANT MONITORING 2022

Contaminant	Unit	NJDEP Guidance Level	Highest Level Detected	Range Detected	Use of Environmental Source
<b>1,4 Dioxane*</b>	ppb		<b>0.23</b>	<b>N/D - 0.23</b>	Used as a solvent in manufacturing and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos

UNREGULATED CONTAMINANT MONITORING 2018 – 2019 ( the Borough of Belmar and NJ American (AM2) schedule was quarterly from Nov. 2018, Feb. 2019, May 2019, and Aug. 2019)

Contaminant	Unit	MRL	Average Result	Range Detected	Use of Environmental Source
<b>Manganese *</b>	ppb		<b>15.1</b>	<b>N/D - 73</b>	Naturally present in the environment; Used in Aluminum alloy production, fertilizer, batteries and fireworks; Drinking water and wastewater treatment chemical
<b>Bromochloroacetic Acid</b>	ppb		<b>1.87</b>	<b>N/D - 4.1</b>	By – product of drinking water disinfection
<b>Bromodichloroacetic Acid</b>	ppb		<b>1.22</b>	<b>N/D - 4.3</b>	By – product of drinking water disinfection
<b>chlorodibromoacetic Acid</b>	ppb		<b>.43</b>	<b>N/D - 2.5</b>	By – product of drinking water disinfection

<b>Dibromoacetic Acid</b>	ppb		<b>.29</b>	<b>N/D - 0.95</b>	By – product of drinking water disinfection
<b>Dichloroacetic Acid</b>	ppb		<b>5.1</b>	<b>.64 - 20</b>	By – product of drinking water disinfection
<b>Monobromoacetic Acid</b>	ppb		<b>.36</b>	<b>N/D - 0.55</b>	By – product of drinking water disinfection
<b>Total Haloacetic Acid</b>	ppb		<b>9.2</b>	<b>N/D - 22</b>	By – product of drinking water disinfection
<b>Total Haloacetic Acid - Br</b>	ppb		<b>3.4</b>	<b>N/D - 8.3</b>	By – product of drinking water disinfection
<b>Total Haloacetic Acid – UCMR4</b>	ppb		<b>12.3</b>	<b>0.64 - 27</b>	By – product of drinking water disinfection
<b>Trichloroacetic Acid</b>	ppb		<b>4</b>	<b>N/D - 11</b>	By – product of drinking water disinfection
<b>2 - Methoxyethanol</b>	ppb		<b>N/D</b>	<b>N/A</b>	Used as a solvent in varnishes, dyes, resins, airplane de-icing solutions. It is also used in organometallic chemistry synthesis

Sample results in red indicate higher readings from NJAW Co.

Sample results in black indicate higher readings from Borough of Belmar water (April – September)

## Per- and Polyfluoroalkyl Substances

Per- and Polyfluoroalkyl Substances (PFAS) are man - made substances used in a variety of products such as: stain resistant fabric, non - stick coatings, firefighting foam, paints, waxes, and cleaning products. They are also components in some industrial processes like electronics manufacturing and oil recovery. The New Jersey Department of Environmental Protection (NJDEP) has begun regulating some of these compounds, establishing a Maximum Contaminant Level (MCL) for Perfluoro - nonanoic Acid (PFNA) in 2019. While all other PFAS are not regulated, the Borough of Belmar recognizes the importance of testing for these contaminants. Compounds detected are tabulated below, along with typical sources. EPA has announced that they plan on establishing a lower Maximum Contaminant Level (MCL) for Perfluoro - nonanoic Acid (PFNA) in 2023 to 4 parts per trillion (PPT).

Perfluorinated Compounds 2020				
Parameter	Unit	Highest Level Detected	Range Detected	Typical Source
Perfluorooctanoic Acid (PFOA)	ppt	4.67	0.532 to 4.67	Used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon) firefighting foam, cleaners, cosmetics, lubricants, paints, polishes, adhesives, and photographic films.
*PFOA has a proposed MCL of 14 ppt				
Perfluorooctane Sulfonic Acid (PFOS)	ppt	2.3	0.14 to 2.3	Manmade chemical: used in products for stain, grease, heat and water resistance.
** PFOS has a proposed MCL of 13 ppt				
Perfluorononanoic Acid (PFNA)	ppt	1.5	< 0.11 to 1.5	Manmade chemical: used in products for stain, grease, heat and water resistance.
	ppt			Manmade chemical: used in products for stain, grease, heat and water resistance.
	ppt			Manmade chemical: used in products for stain, grease, heat and water resistance.
	ppt			

Foot Note:

<sup>1</sup> Fluoride is added to the water during winter months from NJAW Co.(Shrewsbury and Ocean County areas of Coastal North System).

<sup>2</sup> This level represents the highest annual quarterly average calculated from the data collected. These results are from the first quarter of 2012. After the first quarter of 2012 for this system the Stage 1 Disinfection By-product Rule is being phased out.

<sup>3</sup> A new Disinfection Byproduct Rule called Stage 2 took effect for this system the second quarter of 2012.

<sup>4</sup> Radium 226 and Radium 228 have a combined MCL of 5 pCi/L.

<sup>5</sup> The State of New Jersey allows us to monitor for certain contaminants less than once a year because the concentrations are not expected to vary significantly from year to year. Some of the data, though representative, are more than one year old.

<sup>6</sup> The recommended upper limit for iron is based on unpleasant taste of the water and staining of laundry. Iron is an essential nutrient, but some people who drink water with iron levels well above the recommended upper limit could develop deposits of iron in a number of organs of the body.

<sup>7</sup> The recommended upper limit for manganese is based on staining of laundry. Manganese is an essential nutrient, and toxicity is not expected from high levels which would be encountered in drinking water.

<sup>8</sup> For healthy individuals, the sodium intake from water is not important, because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the recommended upper limit may be of concern to individuals on a sodium restricted diet.

<sup>9</sup> 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.

<sup>10</sup> Some infants and young children who drink water containing chlorite in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.

<sup>11</sup> Maximum percentage of positive samples collected in any one month.

Sample results in red indicate higher readings from NJAW Co.

Sample results in black indicate higher readings from Borough of Belmar water (April – September)