



# CITY NEWS

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## DELAWARE CITY 2011 WATER QUALITY REPORT

407 Clinton Street, Delaware City, DE 19706

PWSID: DE0000566

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We are pleased to provide you with this annual water quality report for 2011 and that Delaware City drinking water meets or exceeds all the standards for reportable substances. You will see that substances such as iron, chloride, and sodium are commonly found in drinking water. They occur naturally and, at trace levels, are not harmful to drink. The report shows at what levels any substances were found during tests conducted from Jan. 1, 2011 - Dec. 31, 2011, unless otherwise specified. If you have any questions about this report and the quality of your water, please contact Mr. Dick Cathcart, City Manager at (302) 834-4573. If you wish to learn more, please attend any of the regularly scheduled meetings of Mayor and Council held the third Monday of each month at 7:30 p.m. in the Fire Hall, located at 815 Fifth Street, Delaware City, DE 19706.

### ***A Safe Water Source***

The water serving your home comes from the Potomac aquifer via two (2) wells at depths of 720 and 737 feet. This aquifer is confined and protected from the influence of past farming activities and saltwater intrusion. The Division of Public Health in conjunction with the Department of Natural Resources and Environmental Control (DNREC) has conducted source water assessments for nearly all community water systems in the state. Copies can be obtained by contacting Mr. Dick Cathcart at (302) 834-4573 or by visiting DNREC's Source Water Program website at <http://www.wr.udel.edu/swaphome/swassessments.html>.

### ***Expected Substances In Drinking Water***

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's Safe Drinking Water Hotline (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 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 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, 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, 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.

## ***If You Have A Special Health Concern***

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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

## ***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. Artesian Water 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## ***Radon***

Radon is a radioactive gas that is found in nearly all soils. It typically moves up through the ground to the air and into homes through the foundation. Drinking water from a ground water source can also add radon to the home air. The EPA indicates that, compared to radon entering the home through soil, radon entering the home through water will in most cases be a small source of risk. The EPA and the State of Maryland have not yet set standards for monitoring radon in drinking water, although we do expect sampling to become mandatory in the near future. Artesian Water Company is keeping a close eye on the situation and will be sure to comply with any new regulations as required.

## ***Definition of Terms***

In the 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:

- **90<sup>th</sup> Percentile** – The ninth highest (out of a total of ten) lead and copper readings, used to determine compliance with the Lead and Copper Rule.
- **Action Level** - The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **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 treatment technology.
- **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 allow for a margin of safety.
- **Maximum Disinfection Residual Level (MRDL)** – the highest level of a disinfectant in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.
- **Maximum Disinfection Residual Level 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 contaminants.
- **Nephelometric Turbidity Unit (NTU)** – a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Non-Detects (nd)** - laboratory analysis indicates that the constituent is not present.
- **Not Regulated (n/r)** - no MCL identified because this substance is unregulated.
- **Picocuries per Liter (pCi/l)** – a measure of the radioactivity in water.
- **Parts per Billion (ppb)** – one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.
- **Parts per Million (ppm)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

<b><u>SUBSTANCES DETECTED</u></b>	Violation Yes / No	Unit of Measure	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Highest Level Detected	Annual Range	Major Sources
<b>Inorganic Contaminants</b>							
Fluoride	N	ppm	2	2	1.9	0.0 – 1.9	Water additive that promotes strong teeth.
Barium (2010 Data)	N	ppb	2000	2000	27	24 – 27	Erosion of natural deposits.
Chromium (2010 Data)	N	ppb	100	100	2.9	2.6 – 2.9	Erosion of natural deposits.
<b>Radiological Contaminants</b>							
Radium, combined (2010 Data)	N	pCi/l	5	0	0.7	0.3 – 0.7	Erosion of natural deposits.
Radium 226 (2010 Data)	N	pCi/l			0.2	0.1 – 0.2	Erosion of natural deposits.
Radium 228 (2010 Data)	N	pCi/l			0.5	0.2 – 0.5	Erosion of natural deposits.
<b>Disinfection/Disinfection By-product Contaminants</b>							
Chlorine, Free Residual	N	ppm	4 (MRDL)	4 (MRDLG)	2.7	0.2 – 2.7	Disinfectant used in drinking water industry.
Haloacetic Acids, total	N	ppb	60	0	5.2	0.0 – 5.2	By-product of drinking water chlorination.
Dibromoacetic Acid	N	ppb	n/r		1.5	0.0 – 1.5	
Dichloroacetic Acid	N	ppb	n/r		1.9	0.0 – 1.9	
Monochloroacetic Acid	N	ppb	n/r		1.4	nd – 1.4	
Trichloroacetic Acid	N	ppb	n/r		1.9	0.0 – 1.9	
Trihalomethanes, total	N	ppb	80	0	10.7	3.5 – 10.7	
Bromodichloromethane	N	ppb	n/r		3.5	0.0 – 3.5	
Bromoform	N	ppb	n/r		0.8	0.0 – 0.8	
Chloroform	N	ppb	n/r		2.6	0.6 – 2.6	
Dibromochloromethane	N	ppb	n/r		3.8	0.0 – 3.8	
<b>Unregulated Contaminants</b>							
Alkalinity, Total	N	ppm	n/r		92	90 – 92	
Chloride	N	ppm	n/r	250	14.5	14.2 – 14.5	
Hardness, Total	N	ppm	n/r		9.4	9.2 – 9.4	
Iron	N	ppb	n/r	300	800	0.0 – 800	
pH, Field	N	0-14	n/r	7.5	7.8	6.7 – 7.8	
Sodium	N	ppm	n/r	50	52	51 – 52	
Solids, Total Dissolved	N	ppm	n/r	500	150	124 – 150	
Sulfate	N	ppm	n/r	250	9.5	9.2 – 9.5	
<b>Lead &amp; Copper</b>							
		Action Level			90 <sup>th</sup> Percentile		
90th Percentile Lead (2010 Data)	N	ppb	15	0	1.5	nd - 3	Corrosion of household plumbing systems, Erosion of natural deposits
Number of Sites Exceeding Lead Action Level					0		
90th Percentile Copper (2010 Data)	N	ppm	1.30	0	0.60	0.05 – 0.64	Corrosion of household plumbing systems, Erosion of natural deposits
Number of Sites Exceeding Copper Action Level							
<b>Microbiological Contaminants</b>							
Total Coliform	N	Negative results in 100 % of samples collected. Two (2) coliform samples per month are collected.				Naturally present in the environment.	