Aberdeen

Home of Opportunity

2015 Annual Drinking Water Quality Report

PWSID No. MD0120001

Dear City of Aberdeen Resident: July 1, 2016

The Department of Public Works is pleased to provide you with the Annual Drinking Water Quality Report. This report shows the water quality results of our monitoring for the period of January 1 to December 31, 2015 (except as noted). The report is designed to inform you about the quality of water and services the City delivers to you every day. We are committed in providing you with safe and dependable water that meets or exceeds all federal and state requirements.

The Public Works Department is pleased to report that your drinking water is safe and meets federal and state requirements. This report will provide you with the results and describe the limits by the State of Maryland that the water is required to meet the Clean Water Act of 1972 (1996). The City of Aberdeen routinely monitors for contaminants in your drinking water according to Federal and State laws and under EPA guidelines.

The City water source is from fourteen (14) ground water wells supplied through underground geological rock and sand formations along the Atlantic Coastal Plain. Additionally, the City receives up to 900,000 gallons of water per day from the City of Havre de Grace Water Treatment Plant (WTP) which supplies Harford County, who in turn sells the water to the City. The Havre de Grace WTP is supplied by water from the Susquehanna River. The combined water consumption is an average of 1.7 million gallons per day to supply the City.

As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain small amounts of some contaminants. It is important to remember that the presence of these contaminants does not necessarily pose a health risk.

If you have any questions about this report or your water utility, please contact Curtis Ball, Superintendent of Water/Wastewater Operations, at (410) 272-2650 between the hours of 7 a.m. and 3 p.m. (M – F). We value our citizens and want to reaffirm our commitment for providing you with safe and dependable water. If you want to be more informed about City Public Works, you may attend any of the regularly scheduled City Council meetings. Meeting schedules can be found on the City website.

Curtis Ball
Superintendent of Water

What does all this information mean?

Our water production and distribution system had NO VIOLATIONS and very few detectable contaminants from the table on the next page. We are proud that your drinking water meets or exceeds all Federal, State, and EPA requirements. Through our monitoring and testing protocols, our staff identified that some of the finished water contains low levels of constituents as it leaves the water treatment plant and enters the distribution system. The levels of constituents measured in the water are below the limits and DO NOT POSSESS a health risk. The water is SAFE to drink at these levels according to EPA standards. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

Definitions

Below you will find a list of terms and abbreviations that are used in the report.

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

Parts per million (ppm) or Milligrams per liter (mg/l) - one (1) part per million corresponds to one (1) minute in two (2) years or one (1) penny in $10,000.

Parts per billion (ppb) or Micrograms per liter - one (1) part per billion corresponds to one (1) minute in 2,000 years, or one (1) penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) – one (1) part per trillion corresponds to one (1) minute in 2,000,000 years, or one (1) penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one (1) part per quadrillion corresponds to one minute in 2,000,000,000 years or one (1) penny in $10,000,000,000,000.

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

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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

Action Level (AL) - 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 (MCL) - 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 (MCLG) - 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.

Detected Contaminants – City Water Supply

In addition to the many constituents that were subject to testing but not found, the City did find some regulated constituents present in the water system at levels ***below the maximum allowable level (MCL)*** which is determined safe by the EPA. These constituents are shown on the next page, along with the MCL and MCLG for each one detected. The State requires the City to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, although accurate, is more than a year old as indicated by date (mm/yy). This should not cause you additional concerns.

Detected Contaminants – City Water Supply (cont.)

Regulated Contaminant	Violation Y/N	Level Detected			Unit of Measure	Maximum Contaminant Level (MCL)	MCLG	Likely Source of Contamination
		Low	High	Avg.				
Total Coliform (% of positive tests)	N		0%			Presence of coliform bacteria in <5% of monthly samples	0	Naturally present in the environment. In 2015, 180 samples were tested, and all samples were negative.
*Lead **For 2014**	N		<0.002		ppm	AL = 0.015 (90th percentile)	0	Corrosion of household plumbing systems; erosion of natural deposits.
Copper **For 2014**	N		0.024		ppm	AL = 1.3 (90th percentile)	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
**Fluoride	N	0.30	1.07	0.63	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. Avg. 0.63
† Nitrates (as Nitrogen)	N		2.4		ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Chlorine (as Cl_2)	N	0.20	1.89	1.02	ppm	4	4	Water additive to control microbes. Avg. 1.02
Tetrachloroethylene	N			0.18	ppb	5	0	Leaching from PVC pipes, discharge from factories and dry cleaners.
Dibromo - chloromethane	N			0.55	ppb	see TTHM		Byproduct of drinking water chlorination.
†† TTHM (Total trihalomethanes)	N	5.4	88.0	40.2	ppb	80	40	Byproduct of drinking water chlorination. Rolling yearly average by quarter.
HAA5 (Haloacetic Acids)	N	<1.0	53.0	28.1	ppb	60	30	Byproduct of drinking water chlorination. Rolling yearly average by quarter.

* 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. City of Aberdeen 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 drinking 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 EPA Safe Drinking Water Hotline at 1-800-426-4791 or at **http://www.epa.gov/safewater/lead**."

** Fluoride: Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth and occurs only in developing teeth before they erupt from the gums.

† Nitrates: As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

†† TTHM: Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous system and may have increased risk of getting cancer.

Unregulated Contaminant	Violation Y/N	Level Detected			Unit of Measure	Standard	Likely Source of Contamination
		Low	High	Avg.			
Sulfate March 2013	N		10.7		ppm	250 (Secondary Drinking Water Regulation)	Naturally occurring.
Sodium March 2013	N		34.8		ppm	30 – 60 (Advisory Level)	Naturally occurring.
Methyl-tert-butyl-ether (MTBE)	N		ND		ppb	20 (Advisory Level)	Gasoline additive.
Perchlorate	N		ND		ppb	1.0 (State Advisory Level)	Byproduct of explosives, fertilizer.

City Wells - Perchlorate Information and Update

In April 2002, the City received information from Aberdeen Proving Ground that a compound called **perchlorate** was detected in the groundwater in the vicinity of the City's well field. Since that time, the City has been providing information on this subject to City residents through the media, our web page, and City Council meetings. The following information provides an update on this subject as of the date of this report:

- Perchlorate is an unregulated contaminant that is an ingredient in a variety of products including air bag inflators, electronic tubes, lubricating oils, rocket propellant, explosives, and other commercial and agricultural applications.
- At the direction of the Maryland Department of the Environment, the City has been managing the wells to ensure that the level of perchlorate in the finished water does not exceed 1.0 ppb. (The level established by MDE in the absence of an EPA standard). The City has currently installed perchlorate filtration units on several of its wells that were completed in fall of 2005.

The Department of Public Works will ensure that all measures will be taken to address this issue and that our drinking water meets or exceeds all EPA drinking quality standards. A fact sheet on perchlorate can be found on the EPA web site at **http://www.epa.gov/safewater/perchlorate/perchlorate.html**.

Detected Contaminants – Harford County Water Supply

Harford County is required to monitor and report their water quality and must comply with same EPA and Maryland Department of the Environment regulations. In the water that we purchase from the County, they did find some constituents present in the water system at levels below the maximum allowable level (MCL) which is determined safe by the EPA. These constituents are shown below, along with the MCL and MCLG, for each one detected. The water supplied to the City by Harford County is drawn from the Susquehanna River and is processed in Havre de Grace. Additional information about the County water system and water quality can be accessed on the web at **http://www.harfordcountymd.gov/782/Water-Sewer**.

Regulated Contaminant	Violation Y/N	Level Detected			Unit of Measure	MCL	MCLG	Likely Source of Contamination
		Low	High	Avg.				
Total Coliform (% of positive tests)	N	0%	1%	1%		Presence of coliform bacteria in <5% of monthly samples	0	Naturally present in the environment. In 2015, 1206 samples were tested with only 1 positive and retest was negative.
Barium	N	.03	.09	.09	ppm	2	2	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits.
Fluoride	N	ND	1.1	1.1	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. Avg. 0.6
Nitrates (as Nitrogen)	N	1.3	4.1	4.1	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Copper 2014	N		0.25		ppm	AL = 1.3 (90th percentile)	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead 2014	N		ND		ppb	AL = 15 (90th percentile)	15	Corrosion of household plumbing systems; erosion of natural deposits.
Chlorine (as Cl_2)	N	0.2	2.9	2.9	ppm	4	4	Water additive to control microbes. Avg. 2.9
Chromium	N	ND	2.1	2.1	ppb	100	100	Erosion. Discharge from steel and pulp mills. Erosion of natural deposits.
Di(ethylhexyl)phthalate	N	ND	1.0	1.0	ppb	6	0	Discharge from rubber & chemical factories.
TTHM, (Total trihalomethanes) **For 2014 & 2015**	N	8	50	27	ppb	80	N/A	Byproduct of drinking water chlorination. Rolling yearly average by quarter.
HAA5 (Haloacetic Acids)**For 2014 & 2015**	N	5	45	22	ppb	60	N/A	Byproduct of drinking water chlorination. Rolling yearly average by quarter.
Turbidity ≤ 0.3 in 95% of samples in a month. Never> 1.0	N	0.01	0.45	100%	NTU	TT	N/A	From soil runoff. Avg. 0.5 NTU
Atrazine	N	ND	0.2	0.2	ppb	3	3	Runoff from herbicide use on row crops.
Simazine	N	ND	0.1	0.1	ppb	4	4	Herbicide runoff.
Total Organic Carbon	N	CL by % removal Range 0.6 to1.7			ppm	TT	N/A	TOC has no health effects, but can provide a medium for formation of disinfection byproducts.

Detected Contaminants – Harford County Water Supply (cont.)

Radioactive Contaminants

Regulated Contaminant	Violation Y/N	Level Detected			Unit of Measure	MCL	MCLG	Likely Source of Contamination
		Low	High	Avg.				
Combined Radium (226&228)(pCi/L) (2014)	N	2	2	2		5	0	Erosion of natural deposits.
Gross Alpha (pCi/L) (2014)	N	5.8	5.8	5.8		15	0	Erosion of natural deposits.
Gross Beta (pCi/L) (2014)	N	4.3	4.3	4.3		50	0	Decay of natural and manmade products.

Detected Contaminants – Harford County Water Supply

Unregulated Contaminant	Violation Y/N	Level Detected			Unit of Measure	Likely Source of Contamination
		Low	High	Avg.		
Sodium	N	15	71	35	ppm	Sodium salts used in water treatment for pH adjustment.
Manganese	N	ND	0.02	0.01	ppm	Erosion of natural deposits.
Sulfate	N	ND	41	33	ppm	Used in production of fertilizers, fungicides, insecticides.
Tert-Butyl Alcohol	N	ND	8.4	2.8	ppb	Gasoline additive, paint remover ingredient.

Health information

The detection of these substances in the drinking water does not constitute a known threat to public health. The levels were found to be less than the MCL and below the level that EPA identifies as a health threat. The MCLs are set at very stringent levels and the City's water has proved to be below those levels for the constituents listed above.

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.

Thank you for placing your trust in allowing us to providing you and your family with clean, quality water this year. The employees of the City of Aberdeen work around the clock to provide top quality water to the entire community. We ask that all our customers help us protect our water sources which are the heart of our community, our way of life, and our children's future. Please call our office if you have questions.

City of Aberdeen
Wellhead Protection Program

What is Wellhead Protection?
Wellhead Protection is a strategy designed to protect public drinking water supplies by managing the land surface around a well where activities might affect the quality of the water.

What is the City doing?
There are three components to a wellhead protection program.

1. Wellhead Protection Plan
2. Wellhead Protection Ordinance
3. Education

The City has undertaken the development of a Wellhead Protection Plan for a variety of reasons, including the lack of attractive alternatives to the well field and the vulnerability of the relatively shallow supply wells to potential contamination.

The goal of the Wellhead Protection Plan is to maintain viable water supplies by protecting the raw water source--in this case the aquifer supplying the City's groundwater wells. The purpose of the plan is to:

- Delineate the area contributing water to the source.
- Provide an overview of the susceptibility of the source to contaminants.
- Identify actual and potential sources of contamination within the contributing area.
- Provide a management plan to address activities and properties that threaten the source.
- Provide monitoring practices that will provide early warning of impending problems.
- Provide a contingency plan to address threats and maintain the water supply quality.
- Educate the public on the need to protect the source.

The Wellhead Protection Program Ordinance was adopted through legislation by the City Council on August 9, 2004. The City of Aberdeen conducted a public educational program meeting about the Wellhead Protection Program on September 15, 2004.

You can learn more about the Wellhead Protection Plan and Ordinance by visiting the City's website at **www.aberdeenmd.gov**.