

Howard County Department of Public Works



Annual Water Quality Report

Reporting Period January 1, 2018 to December 31, 2018



Calvin Ball,
Howard County Executive

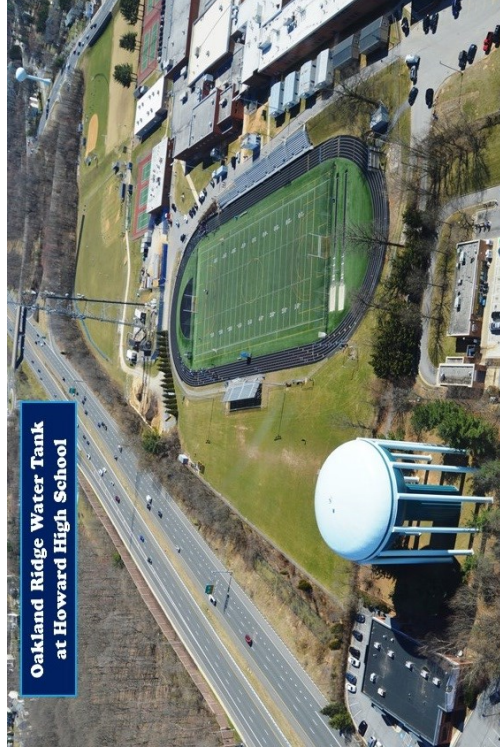
Howard County Drinking Water

Access to clean water is a necessity and a human right. That is why we work hard to ensure that everyone in Howard County has access to quality drinking water. Our Bureau of Utilities is charged with conducting regular tests and publishing their results for the public.

This Consumer Confidence Report is a detailed summary of our community's drinking water quality. You will be able to learn more about how we make sure our water is clean and safe, and from where it is sourced.

I want to extend my thanks to every Howard County employee who works diligently in all types of weather to protect our water quality and ensure uninterrupted service. They are the reason we have the most reliable water supply in the region so that we can all safely enjoy drinking from the tap.

Oakland Ridge Water Tank
at Howard High School



Howard county is pleased to present to you this year's 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 our water suppliers make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water sources are surface water from the Liberty Reservoir on the North Branch of the Patapsco River and the Loch Raven Reservoir on the main stream of the Gunpowder Fall purchased from Baltimore City and surface water from the Patuxent River purchased from the Washington

Suburban Sanitary Commission

DEAR VALUED CUSTOMER,

Howard County residents, businesses, and guests continue to enjoy the highest quality drinking water in the region. In response to the moderate winter weather along with historic amount of rainfall experienced this past year by the region our motivated and well-trained staff were on

continuous duty, promptly repairing broken water mains, and addressing damaged service lines. Our core responsibility is to proactively work each day to ensure critical water services are reliably provided on a 24/7 basis. Our mission is to provide high quality, safe and dependable drinking water to each of our valued customers. We hope you find this report informative and reassuring. In coordination with our regional water suppliers, the City of Baltimore and the Washington Suburban Sanitary Commission, we constantly strive to deliver the highest quality water supply service. The heightened national focus on the state of critical infrastructure is taken seriously and in Howard County our drinking water systems are expertly assessed for physical condition, proactively maintained to the highest standards, and considered for efficient rehabilitation or replacement in our long term capital improvement programming. Please do not hesitate in contacting your Howard County Bureau of

Utilities team at 410-313-4900 for more information, or visit our updated web page at:

Art Shapiro, PE, PMP
Chief, Bureau of Utilities

"Reliable Professionals delivering customer-focused water services."

WHY WATER IS TESTED:

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or manmade. These substances can be microbes, inorganic or organic chemicals and radioactive substances. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, as well as radioactive substances, resulting from the presence of animals or from human activity. All drinking water, including bottled drinking water, may be reasonably 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.

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 storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) sets regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations set limits for contaminants in bottled water that must provide the same protection for public health.

The Maryland Department of the Environment (MDE) has completed a Source Water Assessment of the water supplies that serve the City of Baltimore. The Source Water Assessment Program may be viewed at the MDE web site, http://www.mde.state.md.us/programs/Water/Water_Supply/ConsumerConfidenceReports/Documents/CCR2015/Howard/0130002_Howard_County.pdf.

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

FOR MORE INFORMATION

If you have any questions about this report or concerning your water utility, please contact Howard County Utilities at 410-313-4900. 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 Department of Public Works Board meetings. Please call 410-313-2330 for further information about these meetings.

Employees at Howard County Utilities work around the clock to provide top quality water to every tap. 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.

TEST RESULTS – HOWARD COUNTY - PSWID 0130002									
Contaminant	Violation Y/N	Total Sample Collected	Total Coliform* Positive	E-coli** Positive	E-coli MCLG		E-coli MCLG		
Microbiological Contaminants									
Routine Samples	N	1804	8	0	0		0		
Repeat Sample	N	24	0	0	0		0		
*Coliform bacteria—naturally present in the environment ** E-coli—pathogen from human and animal fecal waste									
TEST RESULTS – OUR SUPPLIERS									
	Baltimore City Supply				Washington Suburban Sanitary Commission Supply				
	Ashburton Plant		Montebello Plant						
Contaminant - Units	Violation Y/N	Level Detected	Violation Y/N	Level Detected	Violation Y/N	Level Detected	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants									
Turbidity - NTU	N	0.08	N	0.62	N	0.03	1.00	TT= Filtration	Soil runoff
Radioactive Contaminants									
Beta/photon emitters pCi/l	N	<1.5	N	<4	N	<4	0	50	Decay of natural and man-made deposits
Alpha emitters pCi/l	N	<1	N	<2	N	<2	0	15	Erosion of natural deposits
Inorganic Contaminants									
Antimony - ppb	N	<5	N	<5	N	ND	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic – ppb	N	<2	N	<2	N	ND	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass And electronics production wastes
Barium – ppm	N	0.02	N	0.036	N	0.03	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium – ppb	N	<0.5	N	<0.5	N	ND	4	4	Discharge from metal refineries And coal-burning factories; discharge from electrical, aerospace, And defense industries
Cadmium	N	<0.5	N	<0.5	N	ND	5	5	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes
Chromium – ppb	N	<2	N	<2	N	ND	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper – ppm	N	<.002	N	<.002	N	0.020	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride – ppm	N	0.68	N	0.73	N	0.5	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead – ppb	N	<2	N	<2	N	ND	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic) Ppb	N	<0.5	N	<0.5	N	ND	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) Ppm	N	1.31	N	1.23	N	1.4	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) Ppm	N	<0.01	N	<0.01	N	<0.05	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium – ppb	N	<5	N	<5	N	ND	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium – ppb	N	<1	N	<1	N	ND	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides									
2,4-D – ppb	N	<1.0	N	<1.0	N	ND	70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex) - ppb	N	<1.0	N	<1.0	N	ND	50	50	Residue of banned herbicide
Alachlor – ppb	N	<2	N	<2	N	ND	0	2	Runoff from herbicide used on row crops
Atrazine – ppb	N	<3	N	<3	N	ND	3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene – ppb	N	<0.2	N	<0.2	N	ND	0	0.2	Leaching from linings of water storage tanks and distribution lines
Carbofuran - ppb	N	<1.0	N	<1.0	N	ND	40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane - ppb	N	<2	N	<2	N	ND	0	2	Residue of banned termiticide
Dalapon – ppb	N	<4.0	N	<4.0	N	ND	200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) Adipate - ppb	N	<0.5	N	<0.5	N	ND	400	400	Discharge from chemical factories

KEY TABLE In this 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 detectable by the analytical instrument used 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 (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000. Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000. Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one 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 5 NTU is just noticeable to the average person. 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. Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions. Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.	Di(2-ethylhexyl) Phthalate - ppb	N	<0.96	N	<0.96	N	ND	0	6	Discharge from rubber and chemical factories
	Dibromochloropropane -ppb	N	<0.02	N	<0.02	N	ND	0	0.2	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
	Dinoseb – ppb	N	<1.0	N	<1.0	N	ND	7	7	Runoff from herbicide used on soybeans and vegetables
	Endrin – ppb	N	<0.5	N	<0.5	N	ND	2	2	Residue of banned insecticide
	Ethylene dibromide - ppb	N	<0.05	N	<0.05	N	ND	0	0.05	Discharge from petroleum refineries
	Heptachlor - ppb	N	<0.4	N	<0.4	N	ND	0	0.4	Residue of banned termiticide
	Heptachlor epoxide - ppb	N	<0.2	N	<0.2	N	ND	0	0.2	Breakdown of heptachlor
	Hexachlorobenzene - ppb	N	<0.5	N	<0.5	N	ND	0	1	Discharge from metal refineries and agricultural chemical factories
	Hexachlorocyclopentadiene - ppb	N	<0.5	N	<0.5	N	ND	50	50	Discharge from chemical factories
	Lindane-ppb	N	<0.2	N	<0.2	N	ND	0.2	0.2	Runoff/leaching from insecticide used on cattle, lumber, gardens
	Methoxychlor - ppb	N	<0.5	N	<0.5	N	ND	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
	Oxamyl [Vydate]-ppb	N	<1.0	N	<1.0	N	ND	200	200	Runoff from Landfills; discharge of waste chemicals
	Pentachlorophenol - ppb	N	<0.2	N	<0.2	N	ND	0	1	Discharge from wood preserving factories
	Picloram - ppb	N	<2.0	N	<2.0	N	ND	500	500	Herbicide runoff
	Simazine - ppb	N	<0.5	N	1.4	N	ND	4	4	Herbicide runoff
	Volatile Organic Contaminants									
	Benzene – ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from factories; leaching from gas storage tanks and Landfills
	Carbon tetrachloride - ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from chemical plants And other industrial activities
	Chlorobenzene – ppb	N	<0.5	N	<0.5	N	ND	100	100	Discharge from chemical and agricultural chemical factories
	o-Dichlorobenzene - ppb	N	<0.5	N	<0.5	N	ND	600	600	Discharge from industrial chemical factories
	p-Dichlorobenzene - ppb	N	<0.5	N	<0.5	N	ND	75	75	Discharge from industrial chemical factories
	1,2 – Dichloroethane - ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from industrial chemical factories
	1,1 – Dichloroethane - ppb	N	<0.5	N	<0.5	N	ND	7	7	Discharge from industrial chemical factories
	cis-1,2-Dichloroethene - ppb	N	<0.5	N	<0.5	N	ND	70	70	Discharge from industrial chemical Factories
	trans-1,2 Dichloroethene - ppb	N	<0.5	N	<0.5	N	ND	100	100	Discharge from industrial chemical factories
	Dichloromethane– ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from pharmaceutical and chemical factories
	1,2-Dichloropropane Ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from industrial chemical factories
	Ethylbenzene – ppb	N	<0.5	N	<0.5	N	ND	700	700	Discharge from petroleum refineries
	Haloacetic Acids, Total– ppb	N	42.0	N	37.0	N	53	0	60	By-product of drinking water chlorination
	Styrene – ppb	N	<0.5	N	<0.5	N	ND	100	100	Discharge from rubber and plastic factories; leaching from landfills
	Tetrachloroethylene - ppb	N	<0.5	N	<0.5	N	ND	0	5	Leaching from PVC pipes; discharge from factories and dry cleaners
	1,2,4-Trichlorobenzene - Ppb	N	<0.5	N	<0.5	N	ND	70	70	Discharge from textile-finishing factories
	1,1,1 – Trichloroethane - Ppb	N	<0.5	N	<0.5	N	ND	200	200	Discharge from metal degreasing sites and other factories
	1,1,2 –Trichloroethane - Ppb	N	<0.5	N	<0.5	N	ND	3	5	Discharge from industrial chemical factories
	Trichloroethene – ppb	N	<0.5	N	<0.5	N	ND	0	5	Discharge from metal degreasing sites and other factories
	TTHM - ppb [Total trihalomethanes]	N	48.0	N	53.0	N	66	0	80	By-product of drinking water chlorination
	Vinyl Chloride - ppb	N	<0.5	N	<0.5	N	ND	0	2	Leaching from PVC piping; discharge from plastics factories
	Toluene – ppb	N	<0.5	N	<0.5	N	ND	1000	1000	Discharge from petroleum factories
	Xylenes – ppb	N	<0.5	N	<0.5	N	ND	10000	10000	Discharge from petroleum factories; discharge from chemical factories

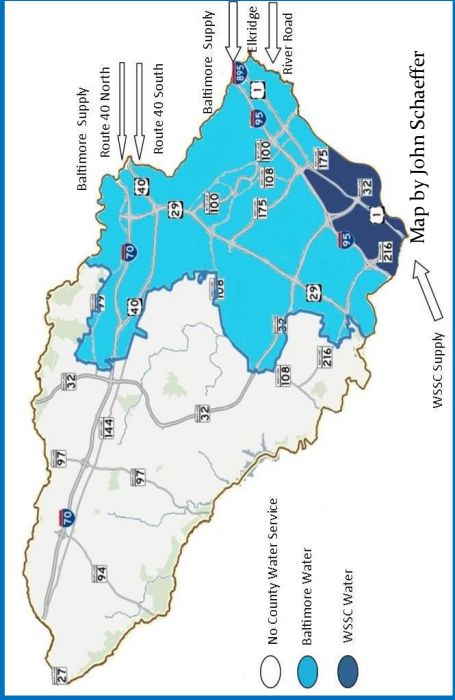
TEST RESULTS - HOWARD COUNTY—PSWID 0130002

Volatile Organic Chemicals

Substance	MCLG	MCL	Range (LRAA)	Average	Violation	Major Sources
Total THM's	n/a	80ppb	27.4 - 99.2ppb	47ppb	No	Byproduct of drinking water chlorination
HAA(5)	n/a	60ppb	23.9 - 45.9 ppb	34ppb	No	Byproduct of drinking water chlorination

Chlorine:

Contaminant	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	2018	0.7	0.6-0.7	MRDLG= 4	MRDL= 4	ppm	N	Water additive used to control microbes.



WHERE YOUR WATER COMES FROM

If you live in the North Laurel area, east of Interstate 95 and south of Patuxent Range Road, your water originates from the Washington Suburban Sanitary Commission in Laurel. If you live anywhere else in Howard County and are connected to the public water supply, your water originates from Baltimore City. As a “Consecutive Water System”, Howard County purchases water from Baltimore City and the Washington Suburban Sanitary Commission. Most of the analyses are performed at their water quality laboratories. The table inside this brochure shows the results of monitoring for the period of January 1st to December 31st, 2018.

LEAD AND COPPER TESTING - HOWARD COUNTY

Water is below detection levels when it leaves the water treatment plant for lead and copper, but lead and copper can be released when the water comes in contact with pipes and plumbing fixtures in homes and buildings that contain lead and/or copper. The USEPA requires testing of the water distribution system for lead and copper at the tap. Howard County is required to sample 51 sites and of these 51 sites, 90% of the samples must have lead and copper levels less than the Action Level set by EPA, 0.015 mg/l or 15 parts per billion for lead and 1.3 mg/l or 1.3 parts per million for copper. The results of the sampling in 2014 are shown below. Howard County’s lead and copper levels are consistently below the Action Level set by EPA. The next scheduled sampling for Lead and Copper will be performed during the summer of 2020. Check out our web page specific to lead in drinking water at: <https://www.howardcountymd.gov/Departments/Public-Works/Bureau-Of-Utilities/Custom-Service-Division/Lead-in-Drinking-Water>

Contaminant	Action Level	90 th Percentile Value
Lead	15 ppb	0 ppb
Copper	1.3 ppm	0.11 ppm

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. Howard County’s Bureau of Utilities 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://water.epa.gov/drink/info/lead/>.”

Reporting Violation: Required Lead and Copper Report was due October 1, 2017. The report was submitted late to MDE, therefore generating a reporting violation. The Report was received by MDE on February 15, 2019.

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

Waivers

The Maryland Department of the Environment has granted the City of Baltimore monitoring waivers for the following compounds: 2,3,7,8-TCDD (Dioxin), Endothall, Diquat,Glyphosphate, Asbestos and Cyanide.