Annual Drinking Water Quality Report

MD0130007 LUTHERAN VILLAGE AT MILLER'S GRANT

Annual Water Quality Report for the period of January 1 to December 31, 2021

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

For more information regarding this report contact:

Brian Lutz, Director of Facilities

Lutheran Village at Miller's Grant

9000 Fathers Legacy, Ellicott City, MD 21042

Phone 410-696-6700

LUTHERAN VILLAGE AT MILLER'S GRANT is Purchased Surface Water

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Sources of Drinking Water

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.

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 EPAs Safe Drinking Water Hotline at (800) 426-4791.

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.

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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 (800-426-4791).

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. We are responsible for providing high quality drinking water, but we 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.

Source Water Information SWA = Source Water Assessment

Source Water Name	Type of Water	Report Status	Location
CC_0130002_HOWARD COUNTY	SW	_____	Attached

2021 Regulated Contaminants Detected

Lead and Copper

Definitions:

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety. Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Lead and Copper	Likely Source of Contamination
Copper	06/20/2019	1.3	1.3	0.063	0	ppm	Copper	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Water Quality Test Results

Definitions: The following tables contain scientific terms and measures, some of which may require explanation.

Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Maximum Contaminant Level or 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.
Level 1 Assessment:	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
	Maximum Contaminant Level Goal or 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.
Level 2 Assessment:	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
Maximum residual disinfectant level or MRDL:	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum residual disinfectant level goal or 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.
na:	not applicable.
mrem:	millirems per year (a measure of radiation absorbed by the body) ppb: micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water. ppm: milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
	Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2021	27	20.7 - 28.9	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2021	40	29.2 - 42	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

Annual Water Quality Report 2022

Howard County Department of Public Works

Reporting Period January 1, 2021 to December 31, 2021

PSWID 0130002

Howard County Drinking Water

Calvin Ball
Howard County Executive

In Howard County, we will always provide clean, high-quality drinking water to keep our community healthy. Every time you turn on a faucet in your home, fill a bottle from a water fountain, or wash your hands and face, you benefit from the skills of our Bureau of Utilities.

Each year our Bureau of Utilities conducts regular tests on our drinking water and publishes its results for the public. This Annual Water Quality Report is a detailed summary of our community's drinking water quality. You can learn where your water is sourced, and how we ensure it is clean and safe. We're deeply grateful to our Howard County employees who work to protect our water quality and provide reliable uninterrupted service so that each time we turn on the tap – we know we're drinking clean water.

Thanks to the work of our Bureau of Utilities, you can fill your bottles and glasses with confidence, knowing that skilled professionals have taken all necessary steps to provide the highest quality water.

Stay hydrated, and rest assured that our community's water supply is ready and reliable.

Sincerely,

Calvin Ball Howard County Executive

Water is Life

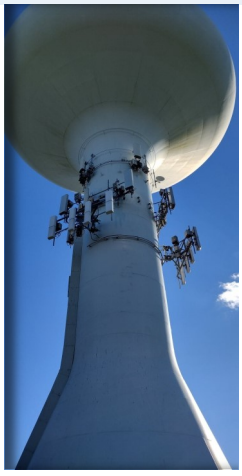
Howard County is pleased to present to you this year's Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts 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 mainstream of the Gunpowder Falls River purchased from Baltimore City and surface water from the Patuxent River purchased from the Washington Suburban Sanitary Commission.

WHY WATER IS TESTED:

All sources of drinking water, whether source aboveground or underground, are subject to potential contamination by substances that are naturally occurring or manmade. These substances or contaminants can be microbes, inorganic or organic chemicals and 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.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.



FOR MORE INFORMATION

If you have any questions about this report or concerns about your water quality, please contact Howard County's Bureau of Utilities at 410-313-4900 or website at https://www.howardcountymd.gov/public-works/bureau-utilities. We want our valued customers to be informed about their water quality. If you want to learn more, please attend any of our regularly scheduled Department of Public Works Board meetings. Please call 410-313-4405 for further information about these meetings.

Howard County's Bureau of Utilities employees work around the clock to provide top quality water to every tap. We also 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.

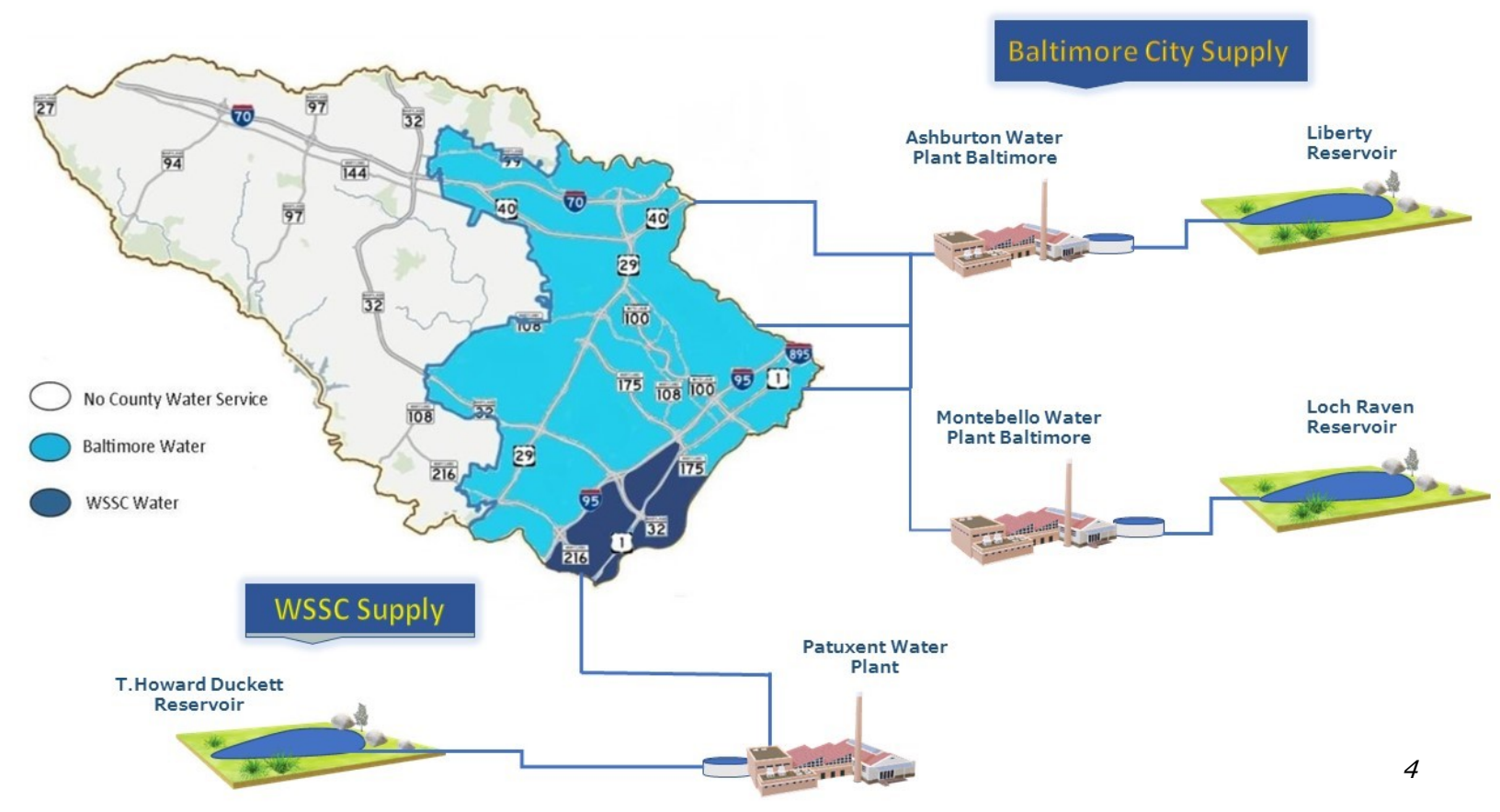
To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) sets regulations that limit the number of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations also set limits for contaminants in bottled water that must provide 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 Baltimore City and WSSC. The Source Water Assessment Program may be viewed on MDE's website: https://mde.maryland.gov/programs/Water/water_supply/Source_Water_Assessment_Program/ Pages/index.aspx

For more information about contaminants and potential health effects, contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

WHERE YOUR WATER COMES FROM

If you live in the North Laurel area, east of I-95 and south of Patuxent Range Road, your water originates from the Washington Suburban Sanitary Commission (WSSC) in Laurel. If you live anywhere else in Howard County and are connected to the County's public water supply, your water originates from Baltimore City. As a "Consecutive Water System", Howard County purchases water from Baltimore City and WSSC. The water quality analyses are performed at Howard County, Baltimore City and WSSC laboratories. The table inside this brochure shows the results of water quality monitoring for the period of January 1, 2021 to December 31, 2021.



TEST RESULTS - HOWARD COUNTY—PSWID 0130002

Contaminant	Violation Y/N	Total Sample Collected	Total Coliform* Positive	E-coli** Positive	E-coli MCLG	Likely Source of Contamination
Microbiological Contaminants						
Routine Samples	N	1806	6	0	0	Naturally present in the environment
Repeat Sample	N	18	0	0	0	Human and animal fecal waste

*Coliform bacteria—naturally present in the environment ** E-coli—pathogen from human and animal fecal waste

Volatile Organic Chemicals						
Substance	MCLG	MCL	Range - Levels Detected	Highest LRAA Level Detected	Violation	Major Sources
Chlorine	MRDDLG = 4	MRDL = 4	0.13 - 0.96 ppm	0.96ppm	No	Water additive used to control microbes
HAA(5)	n/a	60ppb	14.6 - 52.3 ppb	33ppb	No	Byproduct of drinking water disinfection
Total THM's	n/a	80ppb	21.7 - 63.4 ppb	48ppb	No	Byproduct of drinking water disinfection

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
Inorganic Contaminants									
Barium ppm	N	0.0237	N	0.0409	N	0.03	2	2	Discharge from drilling waste
Arsenic ppb	N	<3	N	<3	N	ND	0	10	Erosion of natural deposits
Fluoride ppm	N	0.83	N	1.49	N	0.7	4	4	Water additive that promotes strong teeth
Nitrate ppm	N	1.82	N	2.15	N	1.6	0	10	Runoff from fertilizer use; leaching from septic tank, sewage; erosion of natural deposits
Microbiological Contaminants									
Turbidity NTU	N	0.09	N	0.15	N	0.5	1.0	TT= Filtration	Soil runoff

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.

Radioactive Contaminants								
Washington Suburban Sanitary Commission Supply (WSSC)								
Contaminant Units	Violation Y/N	highest Level Detected	Range of Levels of Detected	Violation Y/N	Level Detected	MCLG	MCL	Likely Source of Contamination
Gross Beta pCi/l	→			N	7.8	0	50	Decay of natural and man-made deposits
Gross Alpha pCi/l	→			N	2	0	15	Erosion of Natural deposits
Combine — Ashburton Plant / Montebello Plant								
Combined Radium pCi/l	N	1.6	0.2-1.6	→		0	5	Erosion of natural deposits

LEAD AND COPPER TESTING - HOWARD COUNTY

Water is below detection levels when it leaves the water treatment plant for lead and copper; however, lead and copper can be released when the water comes in contact with pipes and plumbing fixtures in homes and buildings that contain lead or copper. The EPA requires testing of the water distribution system for lead and copper at the tap. Howard County is required to sample 50 sites and of these 50 sites, 90 percent of the samples must have lead and copper levels less than the Action Level set by the 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 2020 are shown below. Howard County's lead and copper levels are consistently below the Action Level set by the EPA. The next scheduled sampling for Lead and Copper will be performed during the summer of 2023. For more information about lead in drinking water: https://www.howardcountymd.gov/ Departments/Public-Works/Bureau-Of-Utilities/Customer-Service-Division/Lead-in-Drinking-Water.

Contaminant	Action Level	90th Percentile Value	Source of Contamination
Lead	15 ppb	3 ppb	Corrosion of household plumbing systems
Copper	1.3 ppm	0.13 ppm	Corrosion of household plumbing systems

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. Our 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 two minutes before using water for drinking or cooking. If you're 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 on the EPA's website at http://water.epa.gov/drink/info/lead/ or by calling its Safe Drinking Water Hotline at 1-800-426-4791.

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.

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.

Locational running annual average (LRAA) means the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

Unregulated Contaminant Monitoring Rule 4

Every five years, under the 1996 Amendments to the Safe Drinking Water Act (SDWA), the EPA issues a list of contaminants that could be present in the public water systems around the country. This is called the Unregulated Contaminant Monitoring Rule (UCMR). Last year, Howard County participated in the fourth round of the latest revision UCMR. The EPA can use information from this study to develop regulatory decisions for any contaminants that reach an unsafe level of exposure in the public drinking water supply.

Contaminant	Violation Y/N	Highest Level Detected	Range	MCLG	MCL	Source of Contamination
UCMR4 Detected Contaminants		**Howard County**				
Manganese ug/L	N	0.72	ND - 1.7	N/A	N/A	Naturally present in the environment
HAA5 ug/L	N	22.98	5.3 - 54.17	N/A	N/A	By-product of drinking water disinfection
HAA6Br ug/L	N	17.74	4.37 - 55.29	N/A	N/A	By-product of drinking water disinfection
HAA9 ug/L	N	33.22	6.63 - 64.39	N/A	N/A	By-product of drinking water disinfection
ADDITIONAL TEST RESULTS – OUR SUPPLIERS						
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
Di(2-ethylhexyl) Phthalate - ppb	N	<0.96	N	<0.96	N	ND	0	6	Discharge from rubber and chemical factories
Dibromochloropro-pane -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

Unregulated Contaminant for Baltimore and WSSC EPA has established health advisories for PFOA and PFOS			
Ashburton Plant	4.93 ppt	Health Advisory Level 70ppt	For more information
Montebello Plant	1.98 ppt		WSSC — https://www.wsscwater.com/pfas
WSSC — Patuxent Plant	1.92 ppt		Baltimore — https://publicworks.baltimorecity.gov/water-quality-reports

Volatile Organic Contaminants									
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

A Note from Art Shapiro, Bureau of Utilities Chief

DEAR VALUED CUSTOMER,

Despite the onset of the global pandemic in 2020, Howard County residents, businesses and visitors continue to benefit from reliable, high quality water utility service that is best in class in the region. We take pride in providing the fundamental essential water and sewer services so that other essential services, such as hospitals, grocery stores and other county public safety agencies, can function effectively and thrive as we assist the community to progress out of the pandemic era.

The Bureau of Utilities has continued exerting enormous efforts to navigate pandemic related issues each day to protect public health and ensure safe and reliable water service is provided to our customers.

The unusual challenges encountered this past year throughout the region have necessitated that the Bureau of Utilities implement steps recommended by the CDC and state/local health departments to protect the health and safety of the public and our motivated and well-trained essential staff who remain 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 and sewer services are reliably provided on a 24/7 basis. Our mission is to provide high quality, safe and dependable drinking water because it's what our customers expect and deserve.

We hope you find this detailed 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 preventing the spread of the COVID-19 virus 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 to contact our Bureau of Utilities team at 410-313-4900 or visit our website: https://www.howardcountymd.gov/public-works/bureau-utilities, for more information. From our website, visitors can also sign-up to receive email notifications on any emergency or planned utility repairs.

Art Shapiro, PE, PMP
Chief, Bureau of Utilities

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.