

CRYPTOSPORIDIUM

Cryptosporidium (crip-toe-spor-ID-ium) is a protozoan, a single-celled parasite that lives in the intestines of animals and people. This organism is found in some surface water (lakes, reservoirs, rivers, etc.) and ground-water. Infection of healthy individuals by this organism can cause a gastrointestinal illness referred to as cryptosporidiosis, which may produce symptoms including diarrhea, headache, abdominal cramps, nausea, vomiting, and low-grade fever. The symptoms last usually one to two weeks. For immunocompromised people, however, the infection can continue and last for several months. Because there are no effective medical treatments, prolonged infection can be fatal for immunocompromised individuals. Human transmission routes include ingestion of contaminated foods or drinking water through direct contact with fecal matter.

City of Baltimore

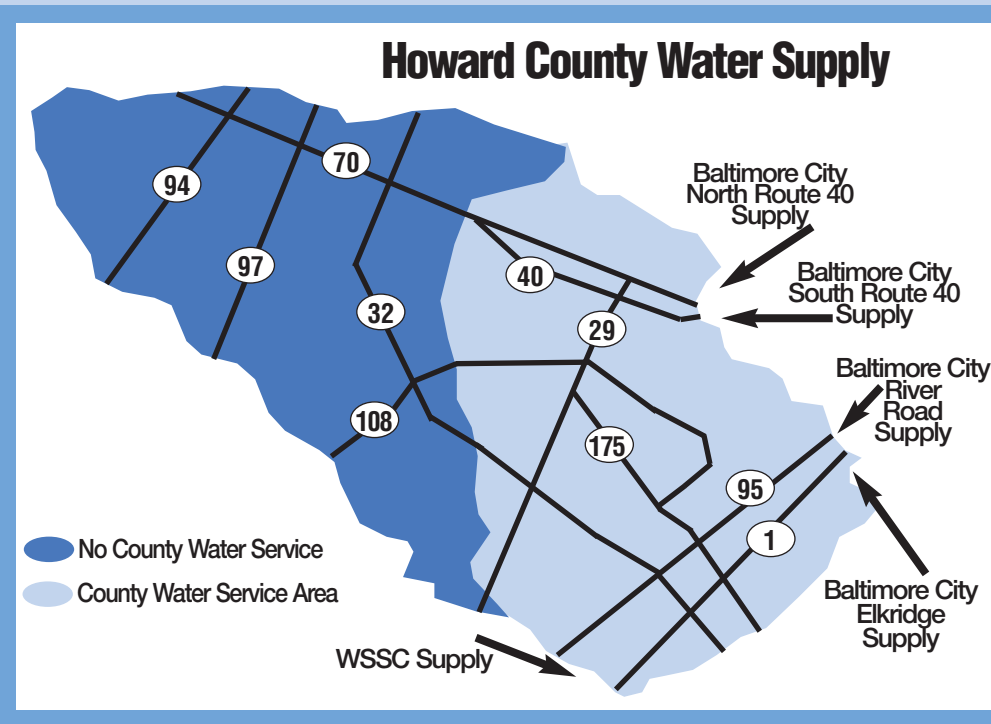
The City of Baltimore monitors its raw water sources for the presence of *Cryptosporidium* using the services of environmental laboratories employing the latest available and approved analytical methods. The results for 2008 were: Liberty Reservoir: 0.0 Oocyst/liter, and the Loch Raven Reservoir: 0.0 oocyst/Liter.

Washington Suburban Sanitary Commission

The Washington Suburban Sanitary Commission monitors its raw water sources for the presence of *Cryptosporidium* using the services of environmental laboratories employing the latest available and approved analytical methods. There was no detection of Oocysts in the raw source water.

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.



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, 2008.

LEAD AND COPPER TESTING - HOWARD COUNTY

The EPA requires the County to sample the water distribution system and test these samples for lead and copper. Under these requirements no more than 10% of samples can have lead and/or copper levels above the Action Level shown below. The results of the County's sampling of 50 sites conducted in 2008 are shown below.

Contaminant	Action Level	90th Percentile Value
Lead	15 ppb	5.4
Copper	1.3 ppm	0.16

To minimize your exposure to lead and copper, flush your tap for 30 seconds to 2 minutes before using water, and don't consume hot water from the tap.

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 Counties 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.

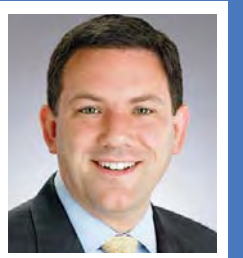
Howard County

is pleased to present to you this year's Annual Quality Water 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 we 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 Falls purchased from Baltimore City, and surface water from the Patuxent River purchased from the Washington Suburban Sanitary Commission.

YOUR WATER IS FRESH AND CLEAN

Clean drinking water is one of our most precious resources, and because of that protecting and maintaining the infrastructure that delivers this water is critical to our quality of life.

This report, which Howard County Government publishes each year and makes available to everyone who receives county water in the Metropolitan District, includes information about the extensive tests the county performs and the test results which confirms that our water is safe. I want to thank the men and women of Howard County Government who work so hard to ensure the highest quality water is available to you, our customers.



Ken Ulman
County Executive

DEAR VALUED CUSTOMER,

Howard County residents and guests continue to enjoy a high quality drinking water. The employees of Howard County's Bureau of Utilities work tirelessly to serve you, our customers, as dedicated stewards of this critical service.

Our mission is to provide high quality, safe, and dependable water. Our staff works 24/7/365 to assure we meet this mission. Increased efforts are continuing to safeguard our water supplies. We hope you find this report informative and reassuring. Please do not hesitate in contacting your Howard County drinking water team at 410-313-4900 for more information. It is a pleasure serving you and please always exercise caution when driving around our crews working near traffic.

Stephen Gerwin,
Chief, Bureau of Utilities

Your 2009 Water Quality Report



HOWARD COUNTY
MARYLAND
JULY 1, 2009

WHY WATER IS TESTED:

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. 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, and radioactive substances. 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.**

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. In general, contamination of water supplies can come from several natural and manmade sources. As water travels over the surface of the land 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. The Source Water Assessment Program may be viewed at the MDE web site, www.mde.state.md.us/programs/waterprograms/water_supply.

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.

TABLE KEY

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 present.

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.

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 at 1-800-426-4791**.

TEST RESULTS – HOWARD COUNTY - PSWID 0130002

Contaminant	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination			
Microbiological Contaminants									
Total Coliform Bacteria	N	0.1%	0.0 –0.8 %	0	presence of coliform bacteria in 5% of monthly samples			Naturally present in the environment	
Fecal Coliform and E.coli	N	ND	0	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E.coli positive			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	0.18	N	0.27	N	0.03	1.00	TT= Filtration	Soil run off
Radioactive Contaminants									
Beta/photon emitters pCi/l	N	3 ±2	N	3 ±2	N	3	0	50	Decay of natural and man-made deposits
Alpha emitters pCi/l	N	<1	N	1 ±1	N	1	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	<0.03	N	.026	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 - ppb	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	0.1	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride - ppm	N	0.88	N	0.97	N	1.03	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	1.66	N	1.95	N	0.95	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	ND	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	<2	N	<2	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	<0.5	N	<0.5	N	ND	0	2	Runoff from herbicide used on row crops
Atrazine - ppb	N	<0.5	N	<0.5	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	<0.5	N	<0.5	N	ND	40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane - ppb	N	<0.5	N	<0.5	N	ND	0	2	Residue of banned termiticide
Dalapon - ppb	N	<0.1	N	<0.1	N	<1.0	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	<0.5	N	<0.5	N	<2.0	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	<0.02	N	<0.02	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	<0.05	N	<0.05	N	ND	0	1	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclo-pentadiene - 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	<2.0	N	<2.0	N	ND	0.2	0.2	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	<1.0	N	<1.0	N	ND	500	500	Herbicide runoff
Simazine - ppb	N	<0.5	N	<0.5	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	22	N	22	N	27	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-Trichlorobenzeneppb	N	<0.5	N	<0.5	N	<0.5	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	45	N	45	N	35	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