

# FREEDOM DISTRICT

PWSID # 0060002

Community Water System • Carroll County, Maryland



## 2008 Annual Water Quality Report

This is an annual report on the quality of water delivered by the Carroll County Bureau of Utilities, Department of Public Works. This report meets the Federal Safe Drinking Water Act (SDWA) requirement for "Consumer Confidence Reports" and contains information on the source of the water, its constituents, and the health risks associated with

any contaminants. Safe water is vital to the community. Please read this report carefully and, if you have questions, call the Bureau of Utilities at 410-386-2164.

Since 1969, water quality has been the primary commitment of Freedom District Water Treatment Plant #1, Plant #2 since May of 2001 and Plant #3 since May 2007.

Freedom District 2008 Annual Water Quality Report

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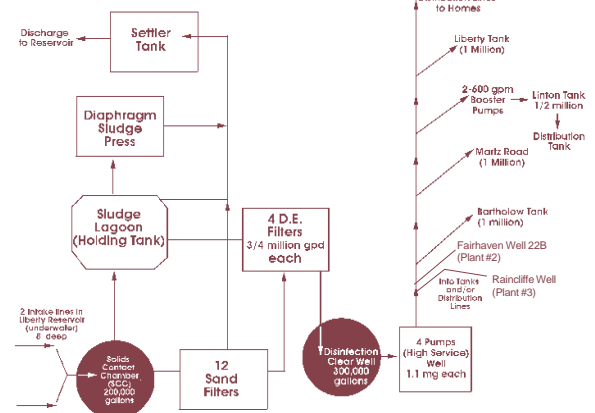
### Where Does Your Water Come From?

The Freedom District Water Treatment Plant #1 is located on the shores of the Liberty Reservoir within the Sykesville formation. This plant draws all of its surface water from the reservoir owned by the City of Baltimore. Under agreement, Carroll County purchases its raw surface water from this source. This plant has a capacity of 3 mgd (million gallons per day). This plant processes and treats surface water for consumer use though 120 miles of distribution lines or into the four storage tanks. The collective capacity of the four tanks total 3.5 million gallons. The storage tanks are utilized for fire protection and reserve until demanded by over 24,000 customers served within the system.

Fairhaven Well 22B, is located within the Piney Run watershed, and is also known as Freedom District Water Treatment Plant #2. This is our first groundwater source to supplement plant #1, coming on line in 2001. The source water, which is a 600 foot well, is treated with Sodium Hypochlorite for disinfection and fluoride for dental protection. This plant added a daily average flow of 83,542 gallons and a maximum daily flow of 377,000 gallons in 2008.

Raincliffe Well RC1, is located .5 mile south from Fairhaven well, and is known as Freedom District Water treatment plant #3. This is our second groundwater source to supplement plant #1, coming on line in 2007. The source water, which is a 500 foot well, is treated with Sodium Hypochlorite before entering 3 packaged Iron & Manganese pressure filters. The filtered water then enters a Carbon Adsorption pressure filter. The filtered water is treated with Sodium Hypochlorite for disinfection, Caustic Soda for pH adjustment and fluoride for dental protection. This plant added a daily average flow of 70,329 gallons and a maximum daily flow of 224,000 gallons in 2008.

### Freedom District Water Treatment Plants' Treatment Process



(continued)



# Water Quality Table

Inorganic Contaminants		FDWTP (Plant # 1)		Fairhaven Well (Plant # 2)		Raincliffe Well (Plant # 3)		Major Sources	Potential health effects from ingestion of water	
Substance	MCL	MCLG	Test Date	HLD	Test Date	HLD	Test Date	HLD		
Copper <sup>1</sup>	AL=1.3	1.3ppm	12/31/08	.053ppm	--	--	--	--	Corrosion of household plumbing systems; erosion of natural deposits	Short term exposure: Gastrointestinal distress Long term exposure: Liver or kidney damage
Fluoride	4ppm	4ppm	2008	1.19ppm	2008	1.6ppm	2008	1.14ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	Exceeding the MCL can cause mottling of teeth
Lead <sup>2</sup>	AL-15ppb	0	12/31/08	0	--	--	--	--	Corrosion of household plumbing systems, erosion of natural deposits	Infants & children: Delays in physical or mental development, children could show slight deficits in attention span & learning disabilities. Adults: Kidney problems & high blood pressure.
Nitrate <sup>3</sup>	10ppm	10ppm	1/14/08	1.3ppm	8/25/08	3.5ppm	4/21/08	1.1ppm	Run off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	Infants below the age of six months who drink water exceeding the MCL, could become seriously ill & if untreated could die. Symptoms include shortness of breath & blue baby syndrome
Selenium	0.05ppm	0.05ppm	6/5/08	<.005ppm	10/9/07	<.005ppm	2/26/08	<.025ppm	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines	Hair or fingernail loss; numbness in fingers or toes; circulatory problems.
Microbiological Contaminants		FDWTP (Plant # 1)		Fairhaven Well (Plant # 2)		Raincliffe Well (Plant # 3)		Major Sources	Potential health effects from ingestion of water	
Substance	MCL	MCLG	Test Date	HLD	Test Date	HLD	Test Date	HLD		
Turbidity <sup>4</sup>		na	2008	0.27NTU	--	--	--	--	Soil Run-off	Used to indicate water quality & filtration effectiveness. Higher levels are associated with disease causing micro-organisms, such as viruses, parasites, & some bacteria. These can cause symptoms such as nausea, cramps, diarrhea & headaches
Total Organic Carbon (TOC)	TT	na	2008	2.2	--	--	--	--	Naturally present in the environment	No known health effect
Disinfectants & Disinfection By-Products		FDWTP (Plant # 1)		Fairhaven Well (Plant # 2)		Raincliffe Well (Plant # 3)		Major Sources	Potential health effects from ingestion of water	
Substance	MCL	MCLG	Test Date	HLD	Test Date	HLD	Test Date	HLD		
Chlorine <sup>5</sup> (as CL <sub>2</sub> )	MRDL=4	MRDLG=4	2008	2.15ppm	2008	2.03ppm	2008	2.2ppm	Water additive used to control microbes	Eye/nose irritation; stomach discomfort
TTHMs <sup>6</sup>	80ppb	na	2008	67.6ppb	3/31/04	29.7ppb	4/30/07	7.1ppb	By-product of drinking water disinfection	Liver, kidney or central nervous system problems; increased risk of cancer
Haloacetic Acids (HAA5) <sup>6</sup>	60ppb	na	2008	36.1ppb	--	--	--	--	By-product of drinking water disinfection	Increased risk of cancer
Synthetic Organic Contaminants		FDWTP (Plant # 1)		Fairhaven Well (Plant # 2)		Raincliffe Well (Plant # 3)		Major Sources	Potential health effects from ingestion of water	
Substance	MCL	MCLG	Test Date	HLD	Test Date	HLD	Test Date	HLD		
Di(2-ethylhexyl) phthalate	6.0ppb	0	8/6/08	<0.5ppb	5/7/08	<.5ppb	2/26/08	.8ppb	Discharge from rubber and chemical factories	Reproductive difficulties; liver problems; increased risk of cancer
Benzo(a)pyrene	0.2ppb	0	6/2/05	<.1ppb	5/7/08	<.1ppb	2/26/08	<.1ppb	Leaching from linings of water storage tanks & distribution lines	Reproductive difficulties; increased risk of cancer
2, 4-D	70.0ppb	70.0ppb	8/6/08	<.1ppb	5/7/08	<.1ppb	2/26/08	<.1ppb	Run off from herbicide used on row crops	Kidney, liver or adrenal gland problems

(continued from inside)

pCi/L. Radon is a radioactive gas that you cannot see, taste, or smell. It is throughout the United States and can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is four picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program or call EPA's Radon Hotline @ (800 - SOS-RADON).

## Copper and Lead Information

On December 31, 2008, the Bureau of Utilities, Department of Public Works tested for Copper and Lead. Test results showed the level of copper to be well below EPA's maximum contaminant level of 1.3 ppm and lead results showed none was detected. The maximum contaminant level for lead is 15 ppb. (See Water Quality Table).

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. The 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://www.epa.gov/safewater/lead>.

### Key to Table

AL = Action Level

MCL = Maximum Contaminant Level

SMCL = Secondary Maximum Contaminant Level

MRDL = Maximum Residual Disinfectant Level

MRDLG = Maximum Residual Disinfectant Level Goal

MCLG = Maximum Contaminant Level Goal

ppm = parts per million, or milligrams per liter (mg/L)

ppb = parts per billion, or micrograms per liter ( $\mu$ g/L)

ppt = parts per trillion, or nanograms per liter

NTU = Nephelometric Turbidity Units

HLD = Highest Level Detected

TT = Treatment Technique

nd = none detected

na - not applicable

\* Indicates SMCL

## An Explanation of the Water Quality Data Table

Our water is tested to assure that it is safe and healthy. The table in this report provides representative analytical results of water samples, collected in 2008 from our system. Please note the following definitions:

### Important Drinking Water Definitions

**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, and taking cost into consideration.

**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, and are nonenforceable public health goals.

**Detected Level:** The highest level detected of a contaminant for comparison against the acceptance levels for each parameter. These levels could be the highest single measurement, or an average of values depending on the contaminant.

**Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Range:** The lowest to the highest values for all samples tested for each contaminant. If only one sample is tested, or no range is required for this report, then no range is listed for that contaminant in the table.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

### Water Quality Table Footnotes

<sup>1</sup> None of the samples tested for copper exceeded the current Action Level of 1.3 ppm.

<sup>2</sup> None of the samples tested for lead exceeded the current Action Level of 15 ppb.

<sup>3</sup> Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

<sup>4</sup> 100% of the samples tested were below the treatment technique level of 0.5 NTU. Turbidity is a measurement of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

<sup>5</sup> Maximum Residual Disinfectant Level (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 (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.

<sup>6</sup> Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants:

- Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (0.3 mg/L)
- Trihalomethanes: bromodichloromethane (zero); bromoform (zero); dibromochloromethane (0.06 mg/L)

For additional information, contact Mr. Gregory Wantz, Water Treatment Plant Superintendent, Bureau of Utilities, Department of Public Works, at 410-386-2164; or consult our web site at [cgov.carr.org/utility](http://cgov.carr.org/utility). For further information, see U.S. Environmental Protection Agency (EPA) water information at [www.epa.gov/safewater/ccr1.html](http://www.epa.gov/safewater/ccr1.html) and [www.waterdata.com](http://www.waterdata.com), for water quality data on other community water systems throughout the United States, or by calling EPA's Safe Drinking Water Hotline at 1-800-426-4791.

For billing information, call 410-386-2000 and for Operation and Maintenance inquiries, call 410-386-2164, Monday through Friday from 8:00 a.m. until 5:00 p.m. An answering machine is available after hours.

The Board of Carroll County Commissioners meets regularly with Department staff. The Carroll County Commissioners' weekly agenda is available on the Internet at [cgov.carr.org/meetings/index/html](http://cgov.carr.org/meetings/index/html). or by calling the Commissioners' Office at 410-386-2043. The Carroll County Commissioners welcome and encourage public participation.

