

Fort Detrick Consumer Confidence Drinking Water Report Calendar Year 2002



Prepared by
Environmental Management Office

For

US Army Garrison
Fort Detrick, Maryland

June 2003

Introduction

This is an annual report on the quality of water produced and delivered by Fort Detrick. Under the "Consumer Confidence Reporting Rule" (CCR) of the federal Safe Drinking Water Act (SDWA), community water systems are required to report this water quality information to the consuming public. Presented in this report is information on the source of our water, its constituents and the health risks associated with any contaminants.

In general, 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. 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 stormwater 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 stormwater 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 stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring and/or a result of human activities such as oil and gas production and mining activities.

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

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 EPA's Safe Drinking Water Hotline (800-426-4791).

We continually monitor the drinking water for contaminants. This past year the tap water at Fort Detrick met all EPA and MDE drinking water health standards. However, 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 at 800-426-4791.

Fort Detrick is permitted to withdraw water from local resources in accordance with permits regulated by the Maryland Department of Environment (MDE). Source water is withdrawn from the Monocacy River

and processed at the Fort Detrick Water Treatment Plant located approximately 1.5 miles east of area A near the intersection of SR26 and MD355. The average daily water production during calendar year 2002 at Fort Detrick was 1.3 million gallons per day. The water treatment plant is operated and staffed 24 hours a day.

Monitoring of Your Drinking Water

Our water system uses only EPA-approved laboratory methods to analyze your drinking water. Our personnel take water samples from the distribution system. These samples are then shipped to an accredited laboratory where a full spectrum of water quality analyses is performed.

At Fort Detrick, we monitor for the contaminant groups listed in the left column of the following table using EPA-approved methods. The right column of the table specifies the monitoring frequency for these contaminant groups.

Analyte/Contaminant Groups and Monitoring Frequency Table

Analyte/Contaminant Group	Monitoring Frequency
Arsenic	Once yearly
Fluoride	Once yearly
Nitrate	Once yearly (1st quarter)
Metals (Phase II/V)	Once yearly
Atrazine	Once yearly (2nd quarter)
SOC (Phase II/V)¹	Once yearly
SOC (Method 525)	Twice yearly (2 quarters yearly)
VOC²	Once yearly
Gross Alpha³	Every 4 years (Next sampling in 2003)
Total Haloacetic Acids	Four times yearly (4 quarters yearly) Samples taken by MDE.
Total Trihalomethanes	Four times yearly (4 quarters yearly) Samples taken by MDE.
Bacteriologic samples	7 per month
Lead	20 samples for triennial (3 yr) period taken between 01 Jun and 30 Sep. (Next sampling in 2005.)
Copper	20 samples for triennial (3 yr) period taken between 01 Jun and 30 Sep. (Next sampling in 2005.)

1 - Synthetic Organic Contaminants (SOC) include Carbofuran, Dalapon and 2,4-D.

2 - Volatile Organic Contaminants (VOC) include Benzene, Styrene and Toluene.

3 - Gross Alpha emitters.

Definitions of Key Terms/Acronyms Used in this Report

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

CCR Consumer Confidence Report

EPA – Environmental Protection Agency Environmental regulatory agency for the federal government

Level Found Laboratory analytical result for a contaminant; this value is evaluated against an MCL or AL to determine compliance.

MCL - Maximum Contaminant Level 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.

MCLG - Maximum Contaminant Level Goal 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.

MDE – Maryland Department of the Environment Environmental regulatory department for the State of Maryland

mg/kg milligrams per kilogram; a unit of measure equivalent to parts per million (ppm)

mg/L milligrams per liter; a unit of measure equivalent to parts per million (ppm)

MRDL – Maximum Residual Disinfectant Level 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.

MRDLG – Maximum Residual Disinfectant Level Goal 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 contamination.

N/A – Not Applicable Used when only one detected result occurred or range was not required to be reported.

NOV Notice of Violation

NTU Nephelometric turbidity unit; a measure of turbidity in water

pCi/L picocuries per liter; a measure of radioactivity in water

ppb parts per billion; a unit of measure equivalent to a single penny in \$10,000,000

ppm parts per million; a unit of measure equivalent to a single penny in \$10,000

ppq parts per quadrillion; a unit of measure equivalent to a single penny in \$10,000,000,000,000

ppt parts per trillion; a unit of measure equivalent to a single penny in \$10,000,000,000

Range The range of the highest and lowest analytical values of a reported contaminant. For example, the range of reported analytical detections for an unregulated contaminant might be 10.1 ppm (lowest value) to 13.4 ppm (highest value). EPA requires this range to be reported.

SDWA Safe Drinking Water Act; Federal law which sets forth drinking water regulations.

Total Haloacetic Acids (HAA) byproducts of drinking water disinfection. Includes monochloroacetic acid, monobromoacetic acid, dichloroacetic acid, trichloroacetic acid, bromochloroacetic acid and dibromoacetic acid.

Total Trihalomethanes (TTHMs) byproducts of drinking water chlorination. Includes chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

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

µg/L micrograms per liter; a unit of measure equivalent to parts per billion (ppb)

Monitoring Results

The following table presents the results of our monitoring for the reporting period of 2002. **Fort Detrick tests for over one hundred other regulated and unregulated contaminants in addition to the ones listed in the results table below.** These include volatile organic compounds, synthetic organic compounds, metals, and other inorganics. None of these additional contaminants were detected in our samples.

Results Table - Detected Contaminants

Contaminant	MCLG	MCL ¹	Level Found ²	Range	Sample Date	Exceeded Standard?
Atrazine	3 ppb	3 ppb	0.3 ppb ³	0.11-0.49 ppb	Jun 25 & Jul 23, 2002	No
Barium	2 ppm	2 ppm	0.013 ppm	N/A	Nov 25, 2002	No
Di(2-ethylhexyl) phthalate	0 ppb	6 ppb	3.5 ppb	N/A	Mar 18, 2002	No
Fluoride	4 ppm	4 ppm	0.1 ppm	N/A	Apr 23, 2002	No
Nitrate	10 ppm	10 ppm	1.9 ppm ³	0.9-3.3 ppm	Mar 1, 2002; Apr 23, 2002; Nov 25, 2002	No
Nitrite	1 ppm	1 ppm	0.002 ppm	N/A	Apr 23, 2002	No
Lead	0 ppb	15 ppb	7 ppb	N/A	Sep 5, 2002	No
Copper	1.3 ppm	1.3 ppm	0.14 ppm	N/A	Sep 5, 2002	No
Total Haloacetic Acids	N/A	60 ppb ³	46.9 ppb ³	15.3-63.9 ppb	Feb 4, 2002; Apr 3, 2002; Aug 5, 2002; Oct 23, 2002	No
Total Trihalomethanes	N/A	80 ppb ³	55.6 ppb ³	24.0-174.4 ppb	Feb 4, 2002; Mar 14, 2002; Apr 3, 2002; Aug 5, 2002; Sep 5, 2002; Oct 23, 2002; Nov 26, 2002	No
Turbidity	N/A	0.5 NTU ⁴	3.058 NTU ⁵	N/A	Highest reading – Jun 16, 2002	No

1 – Applicable State, Local, or Federal MCL, TT, or AL value.

2 – Level Found or 90th percentile value found for Lead and Copper.

3 – Running Annual Average

4 – The turbidity level of representative samples of our system's filtered water must be less than or equal to 0.5 NTU in at least 95 percent of the measurements taken each month.

5 – The **lowest** monthly percentage of samples meeting our turbidity limits of 0.5 NTU was **99%**. Turbidity is a measure of the cloudiness of the water. Turbidity levels are monitored to indicate the effectiveness of our filtration systems.

Likely Sources of Contaminants Detected

Atrazine – Runoff from herbicide used on row crops.

Barium – Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Di(2-ethylhexyl) phthalate – Discharge from rubber and chemical factories.
Also known as Bis(2-ethylhexyl) phthalate.

Fluoride – Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories.

Nitrate – Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits.

Nitrite – Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits.

Lead – Corrosion of household plumbing systems; erosion of natural deposits.

Copper – Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Total Haloacetic Acids – By-product of drinking water disinfection.

Total Trihalomethanes (TTHMs) – By-product of drinking water chlorination.

Turbidity – Soil runoff.

Public Involvement

For additional information concerning the Fort Detrick Consumer Confidence Report, please contact the Fort Detrick Public Affairs Office at 301-619-2018.