Department of Utilities

FLINT

City of Flint
Water Plant & Facilities

2004 Consumers Annual Report on Water Quality

The City of Flint Department of Utilities is proud of the excellent quality of its drinking water. The Consumers Annual Report on Water Quality provides important information about your drinking water. Included in this report is information about the source of the water, a chart summarizing United States Environmental Protection Agency (USEPA) test results and additional health information, and a table giving explanations of important terms to understand when viewing USEPA required test results. The Flint Water Plant & Facilities maintains total compliance with all state and federal regulations. The Flint Department of Utilities is committed to prompt and thorough notification to the consumers if there is any reason for concern about the water.

Information about your drinking water is available at the City of Flint web page on the Internet at *www.cityofflint.com* or by calling the Flint Water Plant & Facilities at (810) 787-6537. The Safe Drinking Water Hotline at (800) 426-4791 is a resource for health related questions and water quality issues. General drinking water information can be found on the USEPA web site at www.epa.gov/safewater/.

Water Source

The City of Flint purchases drinking water from the Detroit Water & Sewerage Department (DWSD) which operates several drinking water facilities. The DWSD Lake Huron Water Treatment Plant, that uses surface water drawn from a tunnel that extends six miles into Lake Huron, is the facility, which serves Flint and Genesee County. Following treatment to remove impurities, the water is pumped by DWSD to the Flint Water Plant where the water is then distributed throughout the City.

The Detroit Water & Sewerage Department has not completed a source water assessment of Lake Huron, although efforts have begun. Such an assessment is not currently required by regulation. Additional information will be included in future reports, as it becomes available.

Additional Health Information

To ensure that tap water is safe to drink, The EPA prescribes regulations, which limit the amount of certain contaminants in water, provided by the public water systems. The Federal 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 (1-800-426-4791).

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. Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) 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.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

(D) 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.

(E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-comprised 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 (1-800-426-4791).

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your homes plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800) 426-4791.

The City of Flint welcomes your comments and opinions about this report. Please contact William C. Daniels II, Supervisor Flint Water Plant and Facilities at (810) 787-6537.

Lake Huron Water Treatment Plant
2004 Regulated Detected Contaminants Tables

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection	Violation Yes/No	Major Sources in Drinking Water
Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap								
Fluoride	8/14/2004	ppm	4	4	1.2	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System (level detected is the highest running annual average based on quarterly averages)								
Total Trihalomethanes (TTHM)	Feb-Nov 2004	ppb	n/a	80	19.6	9.1 – 42.1	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb-Nov 2004	ppb	n/a	60	16.6	7.3 – 31.3	No	By-product of drinking water disinfection
Disinfectant (chlorine) Residual (ppm)	Jan-Dec 2004	ppm	MRDLG 4	MRDL 4	0.81	0.71 - 0.84	No	Water additive used to control microbes
Radioactive Contaminants-Plant Finished Water Tap								
Alpha Emitters	11/16/2001	pCi/l	0	15	3.19	n/a	No	Erosion of Natural Deposits

2004 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot exceed 1 NTU	**Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)**	**Violation Yes/No**	**Major Sources in Drinking Water**
0.13 NTU	100%	No	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.			

Test conducted by the City of Flint

2004 Microbiological Contaminants – Monthly Monitoring in Distribution System					
Contaminant	**MCLG**	**MCL**	**Highest Number Detected**	**Violation Yes/No**	**Major Sources in Drinking Water**
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	**in one month** 4	**No**	Naturally present in the environment.
E.coli or fecal coliform bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E.coli positive.	**entire year** 0	**No**	Human waste and animal fecal waste.

Lead and Copper Monitoring at Customers' Tap								
Contaminant	**Test Date**	**Units**	**Health Goal MCLG**	**Action Level AL**	**90th Percentile Value***	**Number of Samples Over AL**	**Violation Yes/No**	**Major Sources in Drinking Water**
Lead	2002	ppb	0	15	4.0	1	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2002	ppm	1300	1300	0.099	0	No	Corrosion of household plumbing system; Erosion of natural deposits: Leaching from wood preservatives.
*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.								

Regulated Contaminant	Treatment Technique	Running Annual Average	Monthly Ratio Range	Violation Yes/No	Typical Source of Contaminant
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.				Erosion of natural deposits

2004 Special Monitoring (DWSD)

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	Not detected	Erosion of natural deposits

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. DWSD had conducted unregulated contaminant monitoring, information is available upon request.

Water Quality Table Footnotes

Copper The detected level is based on the 90th percentile values of the most recent round of sampling. No samples exceeded the action level (AL).

Lead The detected level is based on the 90th percentile values of the most recent round of sampling. One sample exceeded the action level (AL).

Total Trihalomethanes The detected level and range values are determined by calculating the running annual average of all samples taken at a sampling point.

Turbidity The highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits, 1 NTU for our filtration technology. Turbidity is a measure of the cloudiness of the water.

Total coliform The MCL is based on the presence of coliform bacteria in more than or equal to the highest monthly percentage of positive samples.

Fecal coliform The MCL is based on routine and repeat sampling

Unregulated contaminants Contaminants which USEPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Key to Detected Contaminants Tables

Symbol	Abbreviation for	Definition/Explanation
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
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.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of 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.
MRDL	Maxium Residual Disinfectant Level	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is neecessary for control of microbial contaminants.
ppb	Parts per billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
n/a	Not applicable	
≥	More than or equal to	