

Consumer Confidence Report for year of 2008

Annual Drinking Water Quality Report

City of Newton

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The City of Newton proudly presents this year's Annual Water Quality Report. Details of this report highlight both the quality of water and service the City currently provides. If you have any questions regarding the contents of this report, or general questions regarding your water service, please contact Tim Abernethy at 695-4312.

Where does Newton's water come from?

The Jacob Fork River is the primary water source for Newton's drinking water. The city has a secondary source for water, which is the City Lake, a reservoir that holds approximately 45 million gallons. The Jacob Fork flows approximately 20 miles over solid bedrock where it is well oxygenated and most volatile contaminants are removed. The Jacob Fork River has no commercial or city discharge facilities located along its 20-mile stretch adding to the purity of the water.

How is Newton's water treated for drinking purposes?

Source water from the Jacob Fork River is treated at the City of Newton Water Treatment Plant. During treatment, source water undergoes a series of processes: coagulation, sedimentation, filtration, and disinfection.

- **Coagulation** -- chemicals are mixed into the water to form a solid material around small particles in the raw water, causing them to clump together.
- **Sedimentation** -- particles settle to the bottom of large settling tank and then removed.
- **Filtration** -- water flows through filters of carbon and sand to remove any remaining particles.
- **Disinfection** -- chlorine is added to disinfect the water.

What you need to know about your H₂O

Drinking water originates from many places (i.e., oceans, rivers, lakes, streams, ponds, reservoirs, springs, wells, etc.), sometimes traveling great distances before reaching its final destination. As a result, water collects a variety of substances or contaminants on its journey. Some of these contaminants are:

- **Microbial contaminants**, such as viruses, bacteria and other pathogens, which may come from 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 stormwater runoff, and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and

mining activities.

- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can come from gas stations, urban stormwater runoff, and septic systems.

The following are definitions of quantities of substances found in your water:

- **Nephelometric Turbidity Units (NTU)** - Turbidity units are a measure of the cloudiness of water.
- **Parts per million (ppm) or milligrams per liter (mg/l)** - One part per million corresponds to one minute in two years or one penny in \$10,000.
- **Parts per billion (ppb) or micrograms per liter** - One part per billion corresponds to one minute in 2,000 years or one penny in \$10,000,000.

All drinking water, including bottled water, may reasonably contain small amounts of these contaminants. In accordance with state and federal law, the City of Newton Water Treatment Plant routinely monitors drinking water for these types of contaminants.

For your information...

The EPA prescribes regulations limiting the amount of certain contaminants in drinking water. To this end, the EPA sets Maximum Contaminant Level Goals (MCLG) and Maximum Contaminant Levels (MCL) to ensure your tap water is safe to drink. The Maximum Contaminant Level Goal 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. The 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. 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 the public health.

- **Bacterial results**: You will be glad to know that in the year of 2008 no bacteria contamination was detected in the system. This was after testing over 180 sites.
- **Special Concerns**: Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 provider.
- **Cautionary Health Statement - Be Advised**: 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. Also, 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 will be higher than at other homes in the community because of materials used in your home's 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. Note: Newton's water has significantly less lead than the action level. The last testing was in the year 2006 and will be repeated in the year 2009. Additional information regarding contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline (1-800-426-4791).

Detected Substances in Newton's Water

Table 1: Primary substances regulated at the Treatment Plant. All results of test taken in Jan. 2008 unless noted.

Substance	Newton Result	Highest Level Allowed (MCL)	Ideal Goal MCLG	Major Source
Barium (ppm)	<0.4 mg/l 1/10/2008	2 mg/l	2 mg/l	Erosion of natural deposits
Fluoride (ppm)	1.09 mg/l 1/10/2008	4 mg/l	4 mg/l	Water additive which promotes strong teeth; Erosion of natural deposits
Nitrate (ppm)	<1.0 mg/l 1/10/2008	10 mg/l	10 mg/l	Leaching from septic tanks, sewage; Erosion of natural deposits. Run-off from fertilizer use.
Turbidity NTU (turbidity units)	All below <.3 NTU max/yr.=.06ntu (9/27/2008)	Max allowed <.3 NTU	<.3 NTU (actual %/yr was 100% compliance/yr.)	Soil runoff

* A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Table 2: Substances regulated in the Distribution System

Substance	Result	Range	Highest Level	Ideal Goal	Major Sources
TTHM (ppb) - quarterly tested	37.00 ppb yearly average	15.0 to 68.0 ppb	68.0 ppb 3rd quarter 2008	<80.0 ppb yearly average	Chlorination of water
Haloacetic Acids (HAA5) - quarterly tested	22.75 ppb yearly avg.	11.0 to 41.0 ppb	41.0 ppb 3rd quarter 2008	<60.0 ppb yearly average	Chlorination of water
Total organic carbon; quarterly tested	Raw avg. 1.81 ppm for 2008; Filtered <1.0 ppm	0.94 to 2.8 max ppm – raw; Filtered <1.0 ppm	2.8 ppm (lake source) May 2008	< 2.0 ppm	Decomposition of organics
Copper (ppm) - tested in June 2006 - 90 th percentile	0.18 (ppm) detected	Range 0.18-<0.05 ppm	*Action level=1.3 (ppm)	<1.3 (ppm)	Corrosion of copper pipes
Lead (ppm) Tested in June of 2006	All tests were less than <0.003 ppm; 90 th percentile of lead was <0.003 ppm	All less than <0.003 ppm	*Action level=0.015 (ppm)	Ideal goal < 0.003 ppm	Corrosion of household plumbing systems, erosion of natural deposits
RADIOACTIVITY as Gross Beta tested 8/29/2003	Not detected <0.5 pC/L (8/29/2003)	0 to 4.0 pC/L	Action level if >4.0 pC/L	Ideal goal is non or not detected	Natural decay of radioactive materials
ARSENIC tested 1/10/2008	LESS THAN <0.005 ppm	NOT DETECTED	NOT DETECTED	NON	FOUND IN SOIL
Sulfate	5.4 ppm (1/10/2008)	250.00 ppm	Level detected was 5.4 ppm	Ideal goal to be < 250 ppm	FOUND IN SOIL

*An action level is the concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.

Table 3: Unregulated Volatile Organic Chemicals (tested 1/10/2008)

Substance	Level Detected	Violation
Chloroform (ppm)	0.03 ppm (avg/2008) quarterly tested	No (high 0.055 ppm – low 0.012 ppm) <u>MCL 0.100 ppm</u>
Bromodichloromethane (ppm)	0.006 ppm (avg/2008) quarterly tested	No (high 0.012 ppm – low 0.003 ppm) <u>MCL 0.100 ppm</u>

The City of Newton water has received the AWOP (Area Wide Optimization Program) award for five consecutive years for water far exceeding the requirements for purity, quality, safety and cost for production.

SWAP Program: Source Water Assessment Program - The program is used to assess the vulnerability of our drinking water to contamination. The City of Newton has two water sources: the City Lake and the Jacob Fork River. Both sources have a moderate (or average) rating. To view the completed SWAP, visit <http://www.deh.enr.state.nc.us/pws/swp>, or mail a written request to: Source Water Assessment Program - Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634. This can also be found at the Newton website, www.newtonnc.gov, by clicking on the SWAP button.

This CCR was prepared by Tim Abernethy for the City of Newton, who is the ORC at the Newton Water Treatment Plant. Any questions or comments can be directed to him at 828-695-4312.