

Meredith Water Department

50 Waukewan Street – p:(603) 279-3046 f:(603) 556-8822

Public Water System #1521010

2009 Water Quality Report

Dear Water Customer,

We are pleased to present you with the 2009 Meredith Water Quality Report. The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence Report" (CCR) to customers in addition to other notices that may be required by law. Contained in this report is information about where your water is drawn from, how it is processed, how to protect it, levels of any contaminant detected, compliance with the New Hampshire Department of Environmental Services (NHDES) regulations, cross connection control information, and helpful definitions. The Meredith Water Department is committed to providing you with the safest drinking water and enough capacity to meet your demands. The Meredith Water Department was in full compliance of all rules and regulations in 2009.



Where? How?



Meredith's drinking water comes from Lake Waukewan. Lake Waukewan has a surface area of 953 acres, with an average depth of twenty-two feet, and a maximum depth of twenty-eight feet. Water is pumped from the lake to the Meredith Water Filtration Plant which is located on Waukewan Street. Here, the water is clarified, filtered, and disinfected with the aid of chemicals and mechanical processes. The pH of the water is controlled to prevent corrosion to your plumbing which can cause lead, copper, and other metals to enter your water through the deterioration of plumbing pipes. Phosphates (corrosion inhibitors) are added to aid in plumbing and water main corrosion prevention.

From the water filtration plant the water is pumped into 18 miles of water transmission mains and to a 1.5 million gallon water storage tank. In 2009 the Water Treatment Plant produced an average of 288,000 gallons of water per day, with the summer months averaging 330,000 gallons per day. There are 132 active fire hydrants in town.

Backflow and Cross-Connections

Drinking water regulations state that an approved public water supply may not be connected to an unapproved supply, such as a private well. Such a connection is considered an illegal cross connection. A cross connection is any connection between piping that carries drinking water (also known as potable) and the piping or fixtures that carry other types of water or substances that are not safe to drink (also known as non-potable). Ideally, it is best to not have any cross-connections, but in certain situations they are unavoidable. Examples include residential fire systems, wells or auxiliary water systems, lawn irrigation systems, boilers, swimming pools and hot tubs that are hard piped for filling purposes and even garden hoses.

When an installation requires a cross-connection, it must be properly protected with an acceptable backflow prevention assembly or device to eliminate any potential for a reverse flow back into the potable water supply. The vacuum breaker shown is a device that attaches to any garden hose connection and lets water only go in one direction. A garden hose placed into a bucket to fill without a device like this could pose a backflow risk if a fire hydrant was operated in the water system. The drop in water pressure could cause the contents of the bucket to be drawn into the water system and possibly contaminate the drinking water. An unprotected cross-connection threatens the health and safety of individuals and may contaminate food or beverage products utilizing water from that system.



Vacuum Breaker
for hose bib.

2009 Drinking Water Quality Test Results & Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (1-800-426-4791). 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 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). In 2009 the Water Department tested for chlorine residual, alkalinity, E.coli, inorganic contaminants, nitrates, total organic carbon (TOC), volatile organic compounds (VOCs), turbidity (clarity), trihalomethanes, haloacetic acids, bacteriological testing, inorganic compounds, synthetic organic compounds, and pH. Even though contaminants were detected in the water they were all within acceptable health levels as established by the EPA.



Regulated Contaminants

Abbreviations: **ppm:** parts per million **ppb:** parts per billion **ppt:** parts per trillion **ppq:** parts per quadrillion **pCi/L:** pico curies per liter **NTU:** Nephelometric Turbidity Unit **NA** – Not applicable **nd:** not detectable at testing limits **AL:** Action Level **TT:** Treatment Technique

Additional definitions and terms are located at the end of this document

| | Highest Amount Detected or Annual Average | MCL or MRDL | MCLG or MRDLG | Violation (Y/N) | Possible Sources |
|--|---|-------------|---------------|-----------------|---|
| Inorganic Contaminants | | | | | |
| Nitrate (ppm) | <0.05 | 10 | -- | N | Runoff from fertilized lands, urban drainage and decaying plant debris. |
| Barium (ppm) | 0.007 | 2 | -- | N | Erosion of natural deposits |
| Microbiological Contaminants | | | | | |
| Total Organic Carbon (ppm) | 1.4 | TT | -- | N | Naturally present in the environment. |
| Volatile Organic Contaminants | | | | | |
| TTHM (Bromodichloro-methane Bromoform Dibromomethane Chloroform) (ppb) | 44.1 (annual average) | 80 | -- | N | Byproduct of drinking water chlorination |
| Haloacetic Acids (HAA5s) (ppb) | 31.2 (annual average) | 60 | -- | N | Byproduct of drinking water disinfection |
| Chlorine (ppm) | 0.64 – 1.65 (annual range) | 4 | 4 | N | Water additive used to control microbes |

Turbidity

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. We begin by monitoring raw water turbidity, then we monitor turbidity after each filter and finally we take a finished water sample. This tells us how much turbidity we are removing. At the treatment plant, turbidity is monitored continuously in addition to manual sampling each day to confirm that the in-line analyzers are monitoring correctly. In 2009 the average turbidity in the water leaving the plant was 0.12 NTU (see Important Definitions below) with a maximum of 0.28 NTU and a minimum of 0.06 NTU.

| Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. | | | | | |
|---|------------------------|-----------------------------|------------------------------|-----------------|----------------------------------|
| AWJWA Water Treatment Facility | TT | Lowest Monthly % of Samples | Highest Detected Daily Value | Violation (Y/N) | Possible Source of Contamination |
| Daily Turbidity Compliance (NTU) | 1 | ----- | 0.28 | N | Soil runoff |
| Monthly Compliance* | At least 95% < 0.3 NTU | 100 | ----- | N | |
| *Monthly turbidity compliance is related to a specific treatment technique (TT). This treatment facility filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations. | | | | | |

Lead and Copper

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 Meredith Water Department 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 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 Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Lead and Copper Testing

Below are the results from the most recent round of testing.

| Lead and Copper | Date Collected | 90th Percentile* | Action Level (AL) | MCLG | # of sites sampled | Exceeds AL (Y/N) | # of sites above AL | Possible Sources |
|-----------------|----------------|------------------|-------------------|------|--------------------|------------------|---------------------|---------------------------------|
| Lead (ppm) | 6/12/09 | <0.001 | .015 | 0 | 10 | N | 0 | Corrosion of household plumbing |
| Copper (ppm) | 6/12/09 | 0.093 | 1.3 | 1.3 | 10 | N | 0 | Corrosion of household plumbing |

* Lead and copper compliance is based on the 90th percentile value, which is the highest level found in 9 out of 10 homes sampled. This number is compared to the action level for each contaminant.

Unregulated and Secondary Contaminants

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted. Below are the results from the most recent round of testing. All detected substances did not exceed any MCL, SMCL or Action level. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791.

| Unregulated and Secondary Contaminants | Amount Detected | SMCL | Possible Sources |
|--|-----------------|------|--|
| Sodium (ppm) | 17 | 20 | Natural sources; runoff from road salt |

Protection and Conservation

Protecting our drinking water is crucial, whether it's from pollution (rain run-off, improper disposal of hazardous materials or cross connection) or waste due to leaks from plumbing fixtures or corroded pipes. The WSEB (Water Supply Engineering Bureau) has completed a source water assessment for Meredith Municipal Water System, and community. The complete assessment report is available for inspection at the Meredith Water Department, or visit NH DES Drinking Water Assessment Program Web Site at WWW.DES.STATE.NH.US/DWSPPP.

The purpose of the report is to summarize the number and type of violations that public water systems receive as a result of failing to meet various requirements of the Safe Drinking Water Act. Meredith Water Department vigilantly safeguards its water supply and quality. Last year your tap water met all Environmental protection Agency and State drinking water health standards. Since its inception the Safe Drinking Water Act (SDWA) has been highly effective in protecting public health, and has also evolved to respond to new and emerging threats to drinking water.

Water conservation is another way to protect our drinking water by ensuring that we don't diminish our resource. As much as 97% of the world's water is saltwater, leaving 3% freshwater, two-thirds of which is stored as icecaps or glaciers. This leaves us 1% of the world's water for drinking. Needless to say, water conservation will help us sustain our precious 1%. Here are a few ways to help out. Water your lawn only when it needs it. Step on your grass. If it springs back, when you lift your foot, it doesn't need water. This saves 750-1,500 gallons per month. Turn off the water while brushing your teeth. This saves three gallons each day. Set lawn mower blades one notch higher. Longer grass means less evaporation. This saves 500 to 1,500 gallons each month. Put a layer of mulch around trees and plants. This saves 750 to 1500 gallons per month.



Sources of Drinking Water and Drinking Water Contaminants

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, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

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

Organic chemical contaminants, include synthetic and volatile organic chemicals that 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 can be naturally occurring or be the result of oil and gas production, and mining activities.

Important Definitions



Maximum Contaminant Level or (MCL): The highest level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or (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.

Unregulated Contaminants: Contaminants for which there are no established EPA drinking water regulations.

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

90th Percentile: Out of every 10 homes, 9 were at or below this level.

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

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 expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Secondary Maximum Contaminant Level or (SMCL): These standards are developed to protect the aesthetic quality of drinking water and are not health based.

NTU: Nephelometric Turbidity Units.

ppm: One part per million parts, 1 milligram per liter, equivalent to one drop in 10 gallons.

ppb: One part per billion parts, 1 microgram per liter, equivalent to one penny in \$10 million dollars.



Have questions?

Please feel free to contact the Water Department
(603) 279-3046 - Superintendent: Daniel Leonard

Or

EPA Safe Drinking Water Hotline
(800) 426-4791