Clean Water for a Healthy Community

Charlotte-Mecklenburg Utilities takes its responsibility to provide high quality drinking water and to protect the environment very seriously. We send this report annually, as federally required, to help you learn more about the water resources that are so critical to this community. We invite you to read on about Charlotte's drinking water and how it arrives to your tap.

Our Shared Water Supply

Mountain Island Lake and Lake Norman supply our treatment plants with high quality water for your home, business or school. These surface waters are part of the Catawba River Basin, which provides water for more than 1.5 million people in our growing region. Utilities operates three water treatment plants, and they collectively clean an average of 100 million gallons a day for 760,000 people in Mecklenburg County.

Our Treatment Process

Long before you step in the shower or turn on the tap, Utilities employees have overseen numerous processes to protect our drinking water and those who use it. First we pump the water from Mountain Island Lake and Lake Norman to one of the three water treatment plants - Franklin, Vest or Dukes. We add aluminum sulfate (alum) in the rapid mix phase to cause dirt particles to clump together, where they are removed through settling. The water then flows through filters that trap even smaller particles. We add chlorine to prevent bacterial growth and fluoride to promote dental health. We also use lime to adjust the water's pH and prevent pipe corrosion. We then pump the water to homes, businesses and storage tanks through nearly 4,000 miles of water pipes.

What's in Our Water?

Our treatment plants are designed and operated to clean water to a level of safety far exceeding that required by the Environmental Protection Agency (EPA.) At the level of treatment we provide, Charlotte-Mecklenburg's water is 10 times less likely to have contamination compared with federal standards.

Utilities tests for more than 150 different substances throughout the year, and this report lists only those substances actually found in the water. Many of those impurities occur naturally in the environment. The following chart outlines the substances detected in your water in 2008, how those levels compare with federal limits and the likely sources of those impurities. For a complete list of substances not detected, please call 311 or visit www.cmutilities.com.

Charlotte-Mecklenburg Drinking Water Substances Detected in 2008

Contaminant	Meets Standard	Your Water	EPA Limit (MCL)	EPA Goal (MCLG)	Likely Source
Microbial Contaminants					
Total Coliform (% positive)	✔	0.29% monthly average	No more than	0	Naturally present in the
Distribution System		1.28% highest monthly %	5% positive/month		environment
Turbidity					
Turbidity (NTU)	✔		TT = 1 NTU	N/A	Soil runoff
Franklin		0.15/100%	TT = % of samples ≤0.3		
Vest		0.16/100%			
Lee Dukes		0.10/100%			
Inorganic Contaminants					
Fluoride (ppm)	✔		4	4	Erosion of natural deposits;
Franklin		1.01			water additive that promotes
Vest		0.98			strong teeth
Lee Dukes		0.98			
Copper and Lead Contaminants					
Copper (ppm)	✔	None detected @	AL = 1.3	1.3	Corrosion of household plumbing;
Distribution System		90th percentile			erosion of natural deposits
Lead (ppb)	✔	None detected @	AL = 15	0	Corrosion of household plumbing;
Distribution System		90th percentile			erosion of natural deposits
1 of 55 sites exceeded Action Levels (AL)					
Disinfectants & Disinfection Byproduct Contaminants					
Chlorine	✔		MRDL=4	MRDLG=4	Water additive used to control
Franklin		1.29			microbes and ensure safety
Vest		1.30			
Lee Dukes		1.27			
THM (ppb) Trihalomethanes	✔		80	N/A	Byproduct of drinking water chlorination
Distribution System		56.6			
HAA5 (ppb) Haloacetic Acids	✔		60	N/A	Byproduct of drinking water disinfection
Distribution System		13.4			
TOC Removal	**Meets Standard**	**RAW Average (Min–Max)**	**TREATED Average (Min–Max)**	**Compliance Criteria**	**Likely Source**
Total Organic Carbon (ppm)	✔			< 2.0	Naturally present in the environment
Franklin		1.39 (1.1–1.57)	0.99 (0.9–1.12)		
Vest		1.40 (1.22–1.6)	1.02 (0.86–1.23)		
Lee Dukes		1.33 (1.17–1.48)	0.91 (0.79–1.10)		

Our Results

Our drinking water again meets and exceeds all state and federal drinking water standards.

Our state-certified water treatment operators and expertly trained lab staff work to provide an average of 100 million gallons of clean drinking water every day. Utilities conducted more than 150,000 drinking water tests in 2008, which far exceeds the required amount. Even the highest contaminant levels detected were well below federal limits; you can feel confident in the quality of your water.

Glossary

Action Level (AL) – the concentration of a contaminant, which if exceeded, triggers treatment or other requirements.

EPA Goal/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.

EPA Limit/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 technology.

Maximum Residual Disinfection Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for controlling microbial contaminants.

Maximum Residual Disinfection Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected health risk. This goal does not reflect the benefits of using disinfectants to control microbial contaminants.

Non-Applicable (N/A) – information not applicable or required.

Parts per billion (ppb) – one part per billion (micrograms per liter) corresponds to one minute in 2,000 years, or one penny in $10 million.

Parts per million (ppm) – one part per million (milligrams per liter) corresponds to one minute in two years, or a single penny in $10,000.

Picocuries per liter (pCi/L) – a measure of radioactivity in water.

Nephelometric Turbidity Unit (NTU) – a measure of the cloudiness of the water. Turbidity over 5 ntu is just noticeable to the average person. Low turbidity is a good indicator of the effectiveness of our filtration system.

Total Organic Carbon (TOC) – has no health effects; however, organics provide a medium for the formation of disinfection byproducts. The TOC compliance criteria applies only to treated water.

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

Turbidity % – low percentages are a goal for all substances except turbidity. The turbidity rule requires that 95% or more of the monthly samples must be below 0.5 ntu.

Source Water Assessment Program (SWAP) Results

The state's Source Water Assessment Program conducts periodic evaluations of all drinking water sources across North Carolina to determine their susceptibility to potential contaminant sources. A rating of "higher" does not indicate poor water quality - only the system's vulnerability to become contaminated in the future by potential sources.

The susceptibility rating for each water source was determined by considering the number and location of potential contaminants, along with the conditions of your water source and watershed. For a more detailed report, visit http://www.deh.enr.state.nc.us/pws/swap.

Please note that because SWAP results and reports are periodically updated, the results on this Web site may differ from the results that were available at the time this Water Quality Report was prepared. To obtain a printed copy of the SWAP report, please mail a written request to: *Source Water Assessment Program – Report Request,* 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to swap@ncmail.net. If you have any questions about the SWAP report, please contact the Source Water Assessment staff by phone at 919.715.2633.

Source Name	Inherent Vulnerability Rating	Contaminant Rating	Susceptibility Rating	Date
Mt. Island/ Catawba River	Moderate	Moderate	Moderate	May 2008
Lake Norman	Higher	Higher	Higher	May 2008

Translation

La información contenida en este folleto es de gran importancia. Por favor de hablar con una persona que la entienda o llame por teléfono al número 311 para pedir una copia de este folleto en español.

Trong tập tài liệu chỉ dẫn này có nhiều điều quan trọng. Xin quí vị nhờ người thông dịch hay nhờ bạn bè dịch lại để có thể được hiểu rõ ràng.

What EPA Wants You to Know

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 Environmental Protection Agency's Safe Drinking Water Hotline at 800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 the parasite Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 800.426.4791.

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. Charlotte-Mecklenburg 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 two 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.

All sources for tap and bottled water are fed by water that passes over the land's surface or from underground. Water collects naturally-occurring minerals, radioactive material and substances from human and animal activity on its journey.

Impurities that may be present in untreated water include:

- Microbial - viruses and bacteria from human, agricultural or wildlife sources.
- Inorganic - salts and metals that are naturally-occurring or result from urban runoff, industrial or domestic wastewater discharges, mining or farming.
- Pesticides and herbicides - may come from agricultural runoff or residential use.
- Organic chemicals - may come from industrial or domestic processes, oil and gas production, runoff and septic systems.
- Radioactive materials - can be naturally occurring or the result of mining or human activities.

The EPA regulates the amount of certain substances in your tap water. The Food and Drug Administration establishes limits for contaminants in bottled water also to protect public health.

Why does Utilities add chlorine and fluoride, and are they safe?

Chlorine controls germs in the water and ensures its safety. Fluoride defends against tooth decay and has been added to Charlotte's water since 1949. Utilities carefully monitors these levels. At such low levels, these do not pose a health risk but a significant health benefit.

Is our water hard or soft?

Water hardness is defined by the amount of trace minerals present, such as calcium and magnesium. Water is considered "hard" if it has more than 125 parts per million (ppm) of trace minerals. Charlotte's tap water has an average of 34 ppm or 1.8 grains per gallon of trace minerals, so it is considered "soft" water.

Why is my water occasionally discolored?

Water quality varies most often because of differences in plumbing systems. Rusting in galvanized pipes may cause a rusty color, which can be cleared by running your cold water for several minutes. Discolorations also can come from the distribution system from a water pipe break or fire hydrant use. Cloudiness is usually the result of air bubbles trapped in the water. While these do not affect your water's safety, we recommend calling 311 to report any changes in your water quality.

For more information:

To report a water quality or billing issue, please call Charlotte-Mecklenburg Customer Service at 311 or 704.336.7600. To learn more about this report or how to get involved in local water issues, call 704.391.4685. Utilities information is also available at www.cmutilities.com.

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2008 Water Quality Report

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