

Drink Up, Charlotte!

2006 Water Quality Report



CHARLOTTE.
CHARLOTTE-MECKLENBURG
UTILITIES



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

Charlotte-Mecklenburg Utilities employees work around the clock to provide high quality drinking water, while protecting your health and our environment. We send this report annually, as federally mandated, to help you learn more about our water and water sources in our community. We invite you to read on about Charlotte's drinking water and how it arrives to your tap.

Our Shared Water Sources

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 110 million gallons a day for 750,000 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 3,500 miles of water pipes.



What's in Our Water?

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 2006, 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.

Substances Found in Our Drinking Water in 2006

Contaminant	Meets Standard	Your Water	EPA Limit MCL	EPA Goal MCLG	Likely Source
Microbial Contaminants					
Total Coliform (% positive) Distribution System	✓	0.67% monthly average 1.92% highest monthly %	No more than 5% positive/month	0	Naturally present in the environment
Turbidity					
Turbidity (NTU) Franklin Vest Lee Dukes	✓	0.16/100% 0.16/100% 0.11/100%	TT = 1 NTU TT = % of samples ≤0.3	N/A	Soil runoff
Inorganic Contaminants					
Fluoride (ppm) Franklin Vest Lee Dukes	✓	1.02 0.99 0.99	4	4	Erosion of natural deposits; water additive that promotes strong teeth
Volatile Organic Chemical Contaminants					
Ethylbenzene (ppb) Franklin	✓	0.5	700	700	Discharge from petroleum refineries
Total Xylenes (ppm) Franklin	✓	0.003	10	10	Discharge from petroleum refineries or chemical factories
Copper and Lead Contaminants					
Copper (ppm) Distribution System	✓	None detected @ 90th percentile	AL = 1.3	1.3	Corrosion of household plumbing; erosion of natural deposits
Lead (ppb) Distribution System <i>0 of 52 sites exceeded Action Levels (AL)</i>	✓	None detected @ 90th percentile	AL = 15	0	Corrosion of household plumbing; erosion of natural deposits
Radioactive Contaminants					
Beta emitters (pCi/L) Franklin Lee Dukes	✓	3.7 3.75	50	0	Decay of natural and man-made deposits
Combined Radium (pCi/L) Lee Dukes	✓	1.6	5	0	Erosion of natural deposits
Disinfection Byproducts Contaminants					
TTHM (ppb) Franklin Vest Lee Dukes Distribution System	✓	34.2 34.7 29.3 40.2	80	N/A	By-product of drinking water chlorination
HAA5 (ppb) <i>Haloacetic Acids</i> Franklin Vest Lee Dukes Distribution System	✓	18 20 15 20.4	60	N/A	By-product of drinking water disinfection
TOC Removal					
Total Organic Carbon (ppm) Franklin Vest Lee Dukes	✓	1.46 (1.19–1.87) 1.44 (1.19–1.83) 1.46 (1.19–1.76)	TREATED Average (Min–Max) 1.03 (0.80–1.28) 1.05 (0.87–1.23) 1.01 (0.78–1.34)	Compliance Criteria < 2.0	Likely Source Naturally present in the environment

Our Results

Our state-certified water treatment operators and expertly trained lab staff work to provide an average of 110 million gallons of clean drinking water every day. Utilities conducted more than 150,000 drinking water tests in 2006, 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.*



Charlotte Department of Transportation employee Veronica Wallace is our 2007 Water Week photo contest winner. Congratulations!

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.

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

Non-Detects (N/D) – laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

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.



EPA sets Maximum Contaminant Levels very stringently. A person would have to drink two liters of water that contained a substance at the MCL level every day for a lifetime to have a one-in-a-million chance of having the described health effect.





Utilities provides an average of 110 million gallons of drinking water a day to Mecklenburg County homes and businesses.

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	Higher	Moderate	Higher	March 2005
Lake Norman	Higher	Higher	Higher	March 2005

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 *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline at 800.426.4791.

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.





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*Erinn Rusak, fifth grader
 at St. Gabriel School, is
 our 2007 Water Week
 poster contest winner.
 Congratulations!*



Why does Utilities add chlorine and fluoride to our water?

Chlorine aids in disinfection, and fluoride provides a defense against tooth decay. Both of these substances are added to water at the water treatment plant. We add chlorine to prevent bacterial contamination and keep your water safe on the way to your home or business. Fluoride promotes good dental health by strengthening tooth enamel. Utilities carefully monitors these levels through water testing.

Is our water hard or soft?

Water is considered hard if it measures more than 125 parts per million or 7.5 grains per gallon of trace minerals. Charlotte's tap water has a hardness measure of 30 parts per million, or 1.8 grains per gallon, which is considered soft.

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.

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 quý vị nhờ người thông dịch hay nhờ bạn bè dịch lại để có thể được hiểu rõ ràng.

