



ANNUAL
WATER
QUALITY
REPORT

Water testing performed in 2009

Presented By:

TOWN of CARY

PWS ID#: 03-92-020

Maintaining High Standards

We are once again proud to present to you our annual drinking water quality report. This edition covers all testing completed from January 1 through December 31, 2009. The Town of Cary is committed to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As potential threats to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Per our mission statement: "At the Town of Cary we focus every day on enriching the lives of our citizens by creating an exceptional environment and providing exemplary services that enable our community to thrive and prosper." To that end we strive to provide the highest quality drinking water possible to our customers.

Important Health Information

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/hotline/.

Best Tasting Water Award Recipient

We're proud to report that in November 2009 the Cary/Apex Water Treatment Facility won the annual "Best Tasting Water" contest at the 89th Annual Conference of the N.C. American Waterworks and Water Environment Associations. The competition included drinking water samples submitted from 27 water utilities from throughout the state of N.C.

Where Does Our Water Come From?

The Town of Cary's drinking water source is the B. Everett Jordan Reservoir, more commonly known as Jordan Lake, which lies approximately 10 miles west of Cary in eastern Chatham County. The lake is a surface water supply developed and managed by the U.S. Army Corps of Engineers and is part of the Cape Fear River basin. Your drinking water is produced at the Cary/Apex Water Treatment Facility, a plant co-owned by the towns of Cary and Apex and located on Wimberley Road in western Wake County.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Partnership for Safe Water

In 2009 the Cary/Apex Water Treatment Facility received the Partnership for Safe Water Five Year Directors Award. Our facility proudly joins 148 water utilities nationwide, including only three in N.C., in this honor. For information about the Partnership for Safe Water and this award, please visit the American Waterworks Association website at www.awwa.org/science/partnership.

Questions?

For any questions or concerns relating to your drinking water or water service, please contact Customer Service for the Town's Department of Public Works and Utilities at (919) 469-4090. For more information about this report, please contact Penny Rosser, Chemist at the Cary/Apex Water Treatment Facility, at (919) 362-5502.

Community Participation

The Town of Cary encourages public input in decisions affecting our community's drinking water. Regular meetings of the Cary Town Council are typically held on the second and fourth Thursday of each month at 6:30 p.m. in the Council Chambers at Town Hall, located at 316 N. Academy Street in Cary. The public is welcome. More information about Council meetings can be found on the Town's website at www.townofcary.org.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to potential contaminant sources (PCSs). The results of the assessments are available in SWAP Assessment Reports that include maps, background information, and a relative susceptibility rating of Higher, Moderate, or Lower.

The relative susceptibility rating of Jordan Lake, the water source for the Town of Cary, was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area).

The assessment reported a rating of Higher for Jordan Lake. This assessment was most recently updated in March 2007.

The complete SWAP Assessment Report for the Town of Cary may be viewed online at www.deh.enr.state.nc.us/pws/swap. Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this website may differ from the results that were available at the time this water quality report was prepared. To obtain a printed copy of this report, please mail a written request to Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email a request to swap@ncmail.net. Please indicate your system's name, your PWSID, and your name, mailing address and phone number. If you have any questions about the SWAP Report, please contact Source Water Assessment staff by phone at (919) 715-2633.

Please understand that a susceptibility rating of Higher does not imply poor water quality, but rather the system's potential to become contaminated by PCSs in the assessment area.

Water Conservation

Established in 1996, the Town of Cary's nationally recognized Water Conservation Program uses a combination of educational outreach initiatives, financial incentives, and regulations to manage our water resources effectively for the long term as well as during times of water shortage. Help preserve and protect our natural resources by using water wisely. Visit the Water Conservation web section at www.townofcary.org for water conservation tips as well as information about our incentive programs, such as the High Efficiency Toilet Rebate Program, our year-round water conservation regulations, such as the Alternate Day Watering Ordinance, and our interactive educational programs that are available to schools and civic groups.

Cross-Connection Control Program

Cross-connections that can potentially contaminate drinking water distribution lines are a major concern.

We have surveyed all industrial, commercial, institutional, and irrigation facilities in the Town's service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also require annual inspection and testing of each backflow preventer to make sure that it is providing maximum protection. These annual inspections are also required for all residential irrigation systems.

For more information visit the Town's website or contact Customer Service at (919) 469-4090. You can also find additional information by reviewing the Cross-Connection Control Manual on the EPA's website at www.epa.gov/safewater/crossconnection.html.

What You Should Know About Lead and Drinking Water

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 Town of Cary 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Testing Results

Once again, we're proud to report that your drinking water continues to be safe and in compliance with all state and federal regulations. During the past year we have tested tens of thousands of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in your water. We feel it is important that you know exactly what was detected and how much of the substance was present in your water. Unless otherwise noted, the data presented in this table are from testing performed from January 1 to December 31, 2009.

Unregulated substances are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated substance monitoring is to assist the U.S. EPA in determining the occurrence of unregulated substances in drinking water and whether future regulation is warranted.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	YOUR WATER	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines ¹ (ppm)	2009	[4]	[4]	2.75	1.83–3.94	No	Water additive used to control microbes
Chlorine ¹ (ppm)	2009	[4]	[4]	1.78	0.20–2.80	No	Water additive used to control microbes
Fluoride (ppm)	2009	4	4	1.19	ND–1.19	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] ¹ (ppb)	2009	60	NA	28	16–51	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] ¹ (ppb)	2009	80	NA	69	37–100	No	By-product of drinking water chlorination
Total Coliform Bacteria (% positive samples)	2009	5% of monthly samples are positive	0	1.6	NA	No	Naturally present in the environment
Total Organic Carbon [TOC] ² (removal ratio)	2009	TT	NA	1.32	1.01–1.61	No	Naturally present in the environment
Turbidity ³ (NTU)	2009	TT = 1 NTU	NA	0.15	0.03–0.15	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2009	TT= percentage of samples <= to 0.30 NTU	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	YOUR WATER (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2009	1.3	1.3	0.091	0/58	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2009	15	0	3.6	1/58	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	YOUR WATER	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron (ppb)	2009	300	NA	94	ND–94	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2009	50	NA	30	ND–30	No	Leaching from natural deposits
Sulfate (ppm)	2009	250	NA	38	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES					
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	YOUR WATER	RANGE LOW-HIGH	TYPICAL SOURCE	
Bromodichloromethane (ppb)	2009	28	13–28	By-product of drinking water disinfection	
Bromoform (ppb)	2009	2.1	0.6–2.1	By-product of drinking water disinfection	
Chlorodibromomethane (ppb)	2009	13	7.4–13	By-product of drinking water disinfection	
Chloroform (ppb)	2009	62	11–62	By-product of drinking water disinfection	
Sodium (ppm)	2009	38.4	17.1–38.4	Naturally occurring	

¹ Compliance with the MRDLs for disinfectants and MCLs for disinfection by-products is based on the running annual average shown in the "Your Water" column.

² Based on the average Total Organic Carbon (TOC) and alkalinity levels in our source water, we are required to meet an average percent removal for TOC of 45 percent, which equates to a removal ratio of 1.0 and is classified by the State as the Step 1 compliance method. If we do not achieve that percent removal, there is an "alternative percent removal" requirement. If we also fail to meet that, we are in violation of a Treatment Technique. In 2009, our running annual average percent removal for TOC was 59.4 percent, or a removal ratio of 1.32. We utilized the Step 1 compliance method and were in compliance with regulatory requirements for TOC removal throughout the year.

³ 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. The turbidity rule requires that 95 percent or more of the monthly samples must be less than or equal to 0.3 NTU.

Definitions

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

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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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