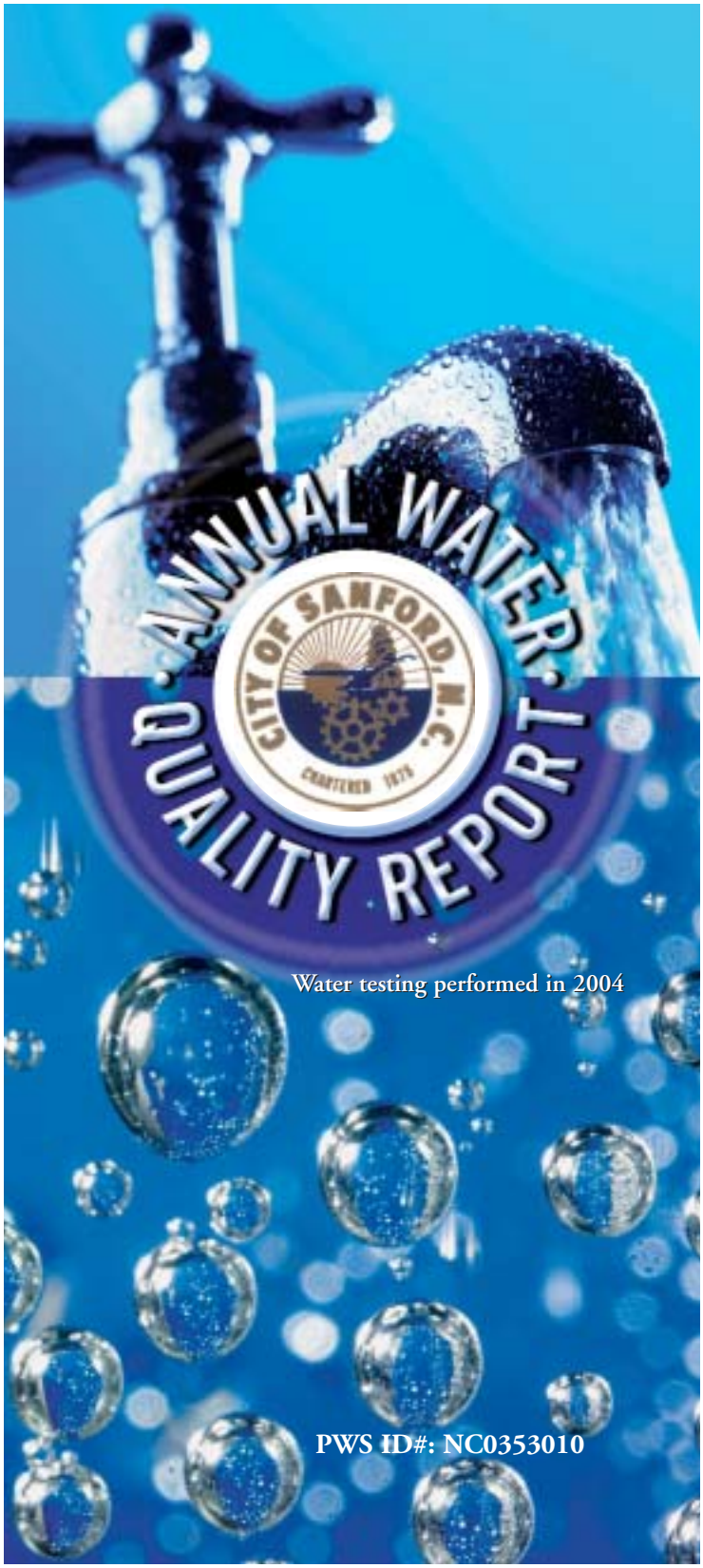

Water testing performed in 2004

PWS ID#: NC0353010

Continuing Our Commitment

Once again we proudly present our annual water quality report. This edition covers all testing completed from January through December 2004. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To the end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

For more information about this report, or for any questions relating to your drinking water, please call Scott M. Christiansen, Water Treatment Plant Superintendent, at (919) 775-8307.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The City of Sanford Council meets the first and third Tuesday of each month beginning at 7 p.m. at City Hall, 225 East Weatherspoon Street, Sanford, NC.

Special 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. 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 (800-426-4791).

Where Does My Water Come From?

The City of Sanford's customers are fortunate because we enjoy an abundant water supply from a single surface water source, the Cape Fear River. The Haw River, the Deep River, and the Rocky River form the headwaters of the Cape Fear River Basin. The City of Sanford Water Treatment Plant serves the City of Sanford, Town of Broadway, Lee County, and parts of Chatham County. Our treatment facility provides roughly two billion gallons of clean drinking water every year.

Information on the Internet

Visit the City of Sanford's Web site (www.sanfordnc.net) for information on all city departments and departmental contacts. The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the North Carolina Department of Environment and Natural Resources has a Web site (www.ehnr.state.nc.us) that provides complete and current information on water issues in our state.

Maintaining Water Quality

One of the top priorities for the City of Sanford is to maintain water quality throughout the distribution system. Water quality tends to deteriorate with time. Therefore, we employ an aggressive flushing program to move water through the system so it does not remain in the distribution mains longer than necessary.

The City of Sanford recommends that businesses, churches, and schools that are routinely closed for long periods or that have extremely low water usage flush their systems before use. Open all faucets and allow any water that may have become stagnant to be expressed. With your participation, we can maximize the quality of water reaching every customer.

Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but also can save you money by reducing your water bill. Here are a few suggestions.

Conservation measures you can use inside your home:	You can conserve outdoors as well with the following:
• Fix leaking faucets, pipes, toilets, etc. • Replace old fixtures; install water-saving devices in faucets, toilets, and appliances. • Wash only full loads of laundry. • Do not use the toilet for trash disposal. • Take shorter showers. • Do not let the water run while shaving or brushing teeth. • Soak dishes before washing. • Run the dishwasher only when full.	• Water the lawn and garden in the early morning or evening. • Use mulch around plants and shrubs. • Repair leaks in faucets and hoses. • Use water-saving nozzles. • Use water from a bucket to wash your car, and save the hose for rinsing.

Information on other ways that you can help conserve water can be found at www.epa.gov/safewater/publicoutreach/index.html.

Source Water Assessment Program

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 assessment are available in SWAP Reports that include maps, background information, and a relative susceptibility rating of High, Moderate, or Low.

The relative susceptibility rating of each source for the City of Sanford 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 findings report that the Susceptibility Rating for the Cape Fear River is “High”.

The complete SWAP Report for the City of Sanford may be viewed on the Web at www.deh.enr.state.nc.us/pws/swap. To obtain a copy of this report, please mail a written request to Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email a request to swap@ncmail.net. Along with your name, mailing address and phone number, please indicate your system name and public water supply identification number. If you have any questions about the SWAP Report, please contact the SWAP staff by phone at (919) 715-2633.

It is important to understand that a susceptibility rating of high does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Working Hard for You

Under the Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting national limits for hundreds of substances in drinking water and also specifies various treatments that water systems must use to remove these substances. Each system continually monitors for these substances and reports their findings to the U.S. EPA. The U.S. EPA uses these data to ensure that consumers are receiving clean water.

This publication conforms to the regulation under SDWA requiring water utilities to provide detailed water quality information to each of their customers annually. We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

Substances Expected to Be in Drinking 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 can acquire 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 the following:

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 which 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.

Sampling Results

During the past year we have taken hundreds 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 the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL[1]	MCLG	AMOUNT DETECTED	RANGE LOW–HIGH	VIOLATION	TYPICAL SOURCE
Alpha emitters (pCi/L)	2003	15	0	0.39	NA	No	Erosion of natural deposits
Beta/photon emitters[2] (pCi/L)	2003	50	0	0.70	NA	No	Decay of natural and man-made deposits
Chloramines (ppm)	2004	MRDL=4	MRDLG=4	2.81	0.6–3.8	No	Water additive used to control microbes
Chlorine (ppm)	2004	MRDL=4	MRDLG=4	1.4	0.1–2.2	No	Water additive used to control microbes
Combined radium (pCi/L)	2003	5	0	0.70	NA	No	Erosion of natural deposits
Fluoride (ppm)	2004	4	4	1.2	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids (HAAs) (ppb)	2004	60	NA	28.33	16.6–41.3	No	By-product of drinking water disinfection
Total Coliforms (% positive samples)	2004	5% positive samples	0	5	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	2004	TT	NA	3.18	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	2004	80	NA	51.75	27–78	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2004	TT	NA	0.34	ND–0.34	No	Soil runoff

Tap water samples were collected for lead and copper analyses from 30 homes throughout the service area (Lead was not detected at the 90th percentile)

SUBSTANCE (UNITS)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH%TILE)	HOMES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2004	1.3	1.3	0.069	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

UNREGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW–HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2004	12	NA	By-product of drinking water disinfection
Bromoform (ppb)	2004	1.3	NA	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2004	8.5	NA	By-product of drinking water disinfection
Chloroform (ppb)	2004	10	NA	By-product of drinking water disinfection

[1] MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

[2] The MCL for beta/photon emitters is written as 4 mrem/year. The EPA considers 50 pCi/L as the level of concern for beta emitters.

[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. During the reporting year, a minimum of 98% of all samples taken to measure turbidity met water quality standards.

Table 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 contamination.

NA: Not applicable

ND: Not detected

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

pCi/L (picocuries per liter): A measure of radioactivity.

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).

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

Contamination from Cross-Connections

Cross-connections that could contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, visit the Web site of the American Backflow Prevention Association (www.abpa.org) for a discussion on current issues.