

# ANNUAL WATER QUALITY REPORT

*Water testing performed in 2007*



DAVIDSON WATER, INC.

PWS ID#: 0229025

## Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2007. Over the years, we have dedicated ourselves 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 new challenges 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.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.



## 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.

## Where Does My Water Come From?

The Davidson Water, Inc. water plant is located on Koontz Road near Highway 64 West. Our source of water is the Yadkin River.

The Yadkin River begins in Blowing Rock, where it starts out as a small stream and follows along Highway 321 and then along State Road 268, deepening as other tributaries feed into the Yadkin. The Yadkin then feeds into the W. Kerr Scott Dam Reservoir. The W. Kerr Scott Dam is an earthen dam built in 1960 by the Army Corps of Engineers for flood control. The reservoir has 125 miles of shoreline and holds up to 112,000 acre-feet of water, or 36.5 billion gallons (an acre foot is one acre of water one foot deep, or 325,800 gallons). A minimum flow must be released through the dam to keep a constant supply of water flowing down the Yadkin.

“WELL-INFORMED CUSTOMERS ARE OUR BEST ALLIES.”

## Source Water Assessment

The North Carolina Department of Environment and Natural Resources, Public Water Supply Section, Source Water Assessment Program (SWAP) assessed all water sources across North Carolina. The assessments determined the susceptibility of each drinking water source to potential contaminants.

It is important to understand that a susceptibility rating of high does not imply poor water quality. Susceptibility is an indication of a water supply's potential to become contaminated by the identified Potential Contaminant Sources (PCSs) within the assessment area.

The assessment finds are summarized in the table below:

Source	Yadkin River
<b>Inherent Vulnerability</b>	<b>High</b>
<b>Contaminant Rating</b>	<b>Moderate</b>
<b>Susceptibility Rating</b>	<b>High</b>

The complete SWAP Assessment Report for Davidson Water, Inc., Public Water Source ID No. 0229025, may be viewed on the Web at [www.deh.enr.state.nc.us/pws/swap](http://www.deh.enr.state.nc.us/pws/swap).

## 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. Davidson Water, Inc. 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Community Participation

If you want to learn more, please attend any of our regularly scheduled meetings by appointment. They are held the fourth Monday of each month at 7:30 p.m. at our Operations Facility, 7040 Old U.S. Highway 52, Welcome, North Carolina.

We also hold an annual meeting on the second Monday in March at the courthouse in either Lexington or Thomasville, North Carolina. A notice is mailed immediately prior to the annual meeting. The annual meeting in 2008 was held at the courthouse in Lexington. President Ron Sink presided. John Greer, Secretary, read the minutes from the previous year; Bob Biesecker from Turlington and Company went over our financial statements; and Gregg Stabler, Manager, reported on operations and maintenance of the water system, along with capital improvements to the system. Five board members were elected to serve three-year terms on the Board of Directors of Davidson Water, Incorporated:

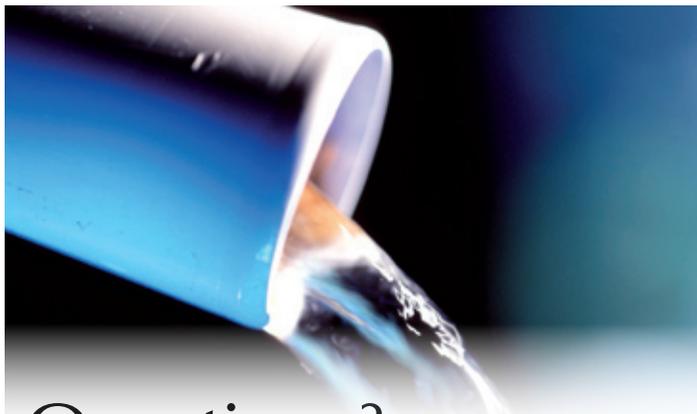
Section 1 - *Ron Sink*

Section 2 - *R. V. Potter Jr.*

Section 3 - *F. Lee Comer*

Section 4 - *Roger Hedgecock*

At Large - *Barbara Ewings*



## Questions?

For more information about this report, or for any questions relating to your drinking water, please call Ron Farnsworth, Plant Superintendent, or Tim Gwaltney at (336) 731-5571, or email [waterplant@davidsonwater.com](mailto:waterplant@ davidsonwater.com).

## Substances That Might 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 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.

## Protecting the Water System From Backflow

Davidson Water, Inc. implemented a cross-connection control policy on January 1, 2008. This policy aims to improve the safety of the water supply by reducing the risk of contamination from the customer's premises into the water supply system. Backflow can occur when the water pressure drops (i.e. a main break). This policy will require lawn irrigation systems to have a backflow preventer installed. Also, this policy will require yearly testing of all backflow preventers. To obtain a list of approved testers and more information visit our Website at [www.davidsonwater.com](http://www.davidsonwater.com).

Here are some things you can do to protect the water:

- Never submerge a garden hose in a tank or pool (maintain an air gap);
- Make sure your private well is not connected with the water system;
- Install and maintain a backflow preventer on your lawn irrigation.



## Additional Information

The “World of Water 2007” had one dominating focus - “drought”. Most of the 100 counties in N.C. were under extreme drought classification. Some areas were more severe than others. We were over 15” below normal rainfall. Systems with dependence on large reservoirs had to go under strict water restrictions and had a count on the number of days of available water left. Rivers and streams were at only half flow.

Our previous drought of 1998-2002 affected us more than the current drought, but the current drought is not over yet. The drought of 1998-2002 was hoped to be a 100 year, or maybe 500 year event, but it was not so. Droughts seem to be getting progressively worse, going from our drought of 1953-1954, 1986-1987, 1998-2002, and to our current drought of 2007-2008. Some experts still question whether the rains of 2003 replenished the water basins as completely as was expected.

Environmentalists concerns on global warming and its effect on climate change seems to be coming true, and a world wide effort and willingness to change our life style seems to be needed sooner than later. The value of life sustaining water, conservation measures, source water protection and the need to develop new sources need to be communicated to our users.

Davidson Water, Inc. has and will continue to improve its river intakes to operate more efficiently and under lower river levels. A source water protection team has been formed to make sure our water quality is the best we can make it. We have, and are continuing to change our rate structure to emphasize conservation. Those that use water more wisely or stringently should pay less (per thousand gallons). We initiated “Voluntary Conservation” in September and are still under this measure. If river flows dictate, we will go under stricter conservation measures. We are working with Randolph Co. to obtain an allocation from the new Randleman Reservoir for another source that will allow us to continue to serve existing and new customers in the Uwharrie and Deep River Basins. This can also be used as an emergency connection.

We are in the process of GPSing all of our meters, valves, hydrants and other facilities that will help us develop a GIS program to help manage our system more efficiently, and provide better customer service along with an in-depth inventory of our system. When finished the GIS program will help us with several of our strategic initiatives, that include Asset Management, Sustainability, Growth, Service Area and Customer Service. Our Workforce Development and Security teams have worked diligently. A tabletop scenario was played out, and ideas on improving productivity and benefits are being formulated.

This past year we received \$26,995.69 of generator credits at our Hyattown facility and office complex. Since installation of these generators, we have received over \$200,000 in credits. Through peak shaving at our water filtration plant, we have been able to reduce our power cost by an additional \$170,000 annually since 1995. We produced 4.17 billion gallons of water in 2007, billing for 3.52 billion gallons with a water loss of 15.6%. We now have over 56,000 accounts serving a population of over 135,000.

We have continued our capital improvement program, completing the 16” and 12” water lines on Meadowbrook Road. Our service leaks have been reduced from a high of 1,214 in 1997 to only 28 in 2007. This past year along with 28 services, we repaired 526 main line leaks, plus an additional 24 leaks caused by contractors, moved 15 water meters, repaired 5 hydrants, made 904 water taps, raised and realigned 229 valve boxes and replaced or repaired 102 valves. We continue with our meter replacement program by changing 6,414 meters. We are continuing with our automatic meter read program and now have 18,100 in use. We continue to add new sign up and payment alternatives providing better customer service. A new phone system has been installed with additional lines and options for our customer needs.

We opened bids on March 21, 2007 on two new one million gallon elevated tanks. One will be going in the Welcome zone and the other in the Hickory Tree zone. Both are under construction and should be finished by late summer. SCADA has been upgraded at our filter plant and at our central station this year. The filter sweeps and piping have been upgraded. Our engineer is working on a design for a new river intake with more capacity and dependability in low flow conditions. A new 20” transmission line has been designed and is under construction from our 3 million gallon reservoir to provide more water to the Welcome zone, which provides water to the Hickory Tree, Wallburg, Hasty and Prospect zones. A new 12” and 8” transmission line has been installed from the Lower Hasty Tank on Old Greensboro Road, along Kanoy Road, Bonnie Reagan Road, Jacob Street and Whiteheart School Road. This line will be an upgrade and also replacement of pipe that has a high failure rate. A new pump station has been designed to go under the 500,000 gallon elevated tank in Trinity. The City of Archdale has agreed to give us this tank and property, but it will continue to be a joint use tank. The pump station will provide better pressure and water quality by more rapid turnover of the water and help to meet peak demands now and in the future. Through these initiatives, we hope to provide better service to you our members now and in the future.

In the future we hope to continue replacing lines that have a high failure rate. This year Hampton Road, County Home Road and Howard Black are slated for replacement and improvements. Lines that need to be looped will be given high priority also.

Continued growth and water demand in our service area will require us to continue making plans for a new water plant. Our 2 Mgd plant that started operating in 1969 with 2,800 connections has been expanded several times now and serves 55,000 connections with a capacity of 20 Mgd.

Next year we will be celebrating 40 years of providing water to you, our members.

## 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.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2007	[4]	[4]	1.96	1.3–3.0	No	Water additive used to control microbes
Fluoride (ppm)	2007	4	4	0.9	0.11–1.27	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2007	60	NA	37.6	14.5–60.0	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2007	80	NA	54.1	14.0–126.0	No	By-product of drinking water chlorination
Total Organic Carbon [TOC]–TREATED <sup>1</sup> (ppm)	2007	TT	NA	1.15	0.7–1.4	No	Naturally present in the environment
Turbidity <sup>2</sup> (NTU)	2007	TT = 1 NTU	NA	0.26	0.02–0.26	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2007	TT = 1 NTU	NA	100	NA	No	Soil runoff

Tap water samples were collected from 50 sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2007	1.3	1.3	0.095	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2007	15	0	5	1	No	Corrosion of household plumbing systems; Erosion of natural deposits

<sup>1</sup> Depending on the TOC in our source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal, there is an alternative % removal. If we fail to meet the alternative % removal, we are in violation of a Treatment Technique.

<sup>2</sup> 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% 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

**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).

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