

## 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).



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## Where Does My Water Come From?

The Davidson Water, Inc.'s 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. Keer Scott Dam Reservoir. The W. Keer 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.

Davidson Water, Inc.  
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Welcome, NC 27374

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# ANNUAL WATER QUALITY REPORT

Water testing performed in 2005

Proudly Presented By:  
DAVIDSON WATER, INC.



PWS ID#: NC0229025

This past year we continued our capital improvement program, completing replacement of a 6-inch PVC pipe on Old 29 with an 8-inch ductile iron line due to excessive leaks and have purchased 12-inch ductile iron pipe for replacement of a 6-inch PVC line on Meadowbrook Road in Randolph County. Much of the line replacement on Old 29 was accomplished with our own employees, and we will utilize them again on the Meadowbrook Road project. The major 24-inch and 16-inch transmission line from our Hyattown pump station has been completed and is in service. This will provide additional water capacity for a long time to come into this area of our system. Another major transmission line, a 16-inch ductile iron is now under construction on Hwy 62 in Randolph County. It will provide a much needed increase in pressure and capacity for our customers in Randolph County. A new caustic containment building has been completed with additional storage capacity and safety features. The banks of the two lower reservoirs have been reworked and stabilized. Additionally, seven acres of property was purchased at our C. O. Pickle water plant site for future use and additional buffer. Additional office space at the Threll Grimes Operation Center has been completed and much of our other office space has been refurbished using our own employees. Our service change out project should be finished by the end of this month. Approximately 11,000 polyethylene services and 20,000 polyethylene services have been changed to copper. Our service leaks have been reduced from a high of 1,214 in 1997 to only 162 in 2005. Along with the services repaired this year, we repaired 436 main line leaks and 48 leaks caused by contractors. We changed 3,271 plastic services to copper, moved 44 meters, repaired 5 hydrants, made 947 water taps, raised and realigned 262 valves boxes, and repaired or replaced 43 valves.



We continue with our meter replacement program, having changed out 4,558 meters. We are also continuing our automatic meter read pilot, now having approximately 6,000 in use. Over 600,000 meters were read, billed and payments posted. Over 4,400 meters were cut off for nonpayment, and 6,557 final readings were obtained when customers moved. Those accounts also had to be cut back on and processed by our office personnel as customers moved back in. Alternative payment methods are continuing to be used, providing better customer service. Hazen and Sawyer have been hired to update our capital improvement master plan, to calibrate our hydraulic model, to test some of our pumps and to help us do our initial distribution system evaluation required by the U.S. EPA. A new structure has been completed at our Hyattown pump station to house our two new 16-inch control valves, which will help increase the capacity of our two 24-inch transmission lines, bringing water to our 3-million-gallon tank and pump station. It will also open up an additional area of the county for commercial and industrial growth.



## Working Hard For You

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 2005 was held at the courthouse in Lexington. President Thad Hartley presided. John Greer, Secretary, read the minutes from the previous year; Bob Biessecker 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, Inc.:

Section 1 - Ben Hege  
Section 2 - John Sharpe  
Section 3 - John Greer  
Section 4 - Richard Morsinger  
At Large - Danny Fitzgerald

Two new U.S. EPA regulations have been implemented in 2006, the Stage II Disinfection By-Products Rule and the Enhanced Surface Water Treatment Rule. Our NPDES Permit also has new requirements on water returned to our source. We are working on each of these to stay in compliance and to continue to provide our members with safe and abundant water. HDR, an engineering firm, completed their study of water supply needs for Davidson County. Denton, Handy Sanitary District, Lexington, Thomasville, Davidson County, and Davidson Water, Inc., all participated in the study. It was determined the county had an adequate water supply for more than 50 years. Improvements to intakes were the main recommendation. We hope to get plans for a new river intake approved this year and ready for use by the summer of 2007.

## Community Participation

Once again we proudly present our annual water quality report. This edition covers all testing completed from January through December 2005. 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 that 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 Ron Farnsworth, Plant Superintendent, or Tim Gwaltney at (336) 787-5800, or e-mail [waterplant@davidsonwater.com](mailto:waterplant@ davidsonwater.com).



## 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 (MRDL)	MCLG (MRDLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2005	(4)	(4)	1.86	0.7-3.1	No	Water additive used to control microbes
Fluoride (ppm)	2005	4	4	0.96	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
HAA's (Haloacetic Acids) (ppb)	2005	60	NA	27.6	19.4-39	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2005	TT	NA	0.86	0.5-1.43	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	2005	80	NA	27.9	13.9-44.1	No	By-product of drinking water disinfection
Turbidity (NTU) <sup>1</sup>	2005	TT	NA	0.19	0.03-0.19	No	Soil runoff

Tap water samples were collected for lead and copper analyses from 49 homes throughout the service area

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	0.105	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb) <sup>2</sup>	2004	15	0	4	3	No	Corrosion of household plumbing systems; Erosion of natural deposits

<sup>1</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. During the reporting year, 100% of all samples taken to measure turbidity met water quality standards.

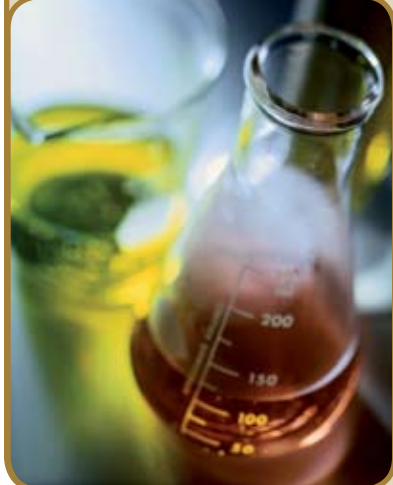
<sup>2</sup> Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

## 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:

**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.

## 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 installed backflow preventers (dual checks) on new services since 1992. We currently have an initiative to replace approximately 10 to 15 thousand meter setters with a setter that has a backflow preventer (dual check). Adding a dual check valve to the service connection will increase protection of our system by preventing backflow.

The installation of a dual check may cause a situation called thermal expansion, which may cause the relief valve on your hot water tank to leak. One solution, if you experience thermal expansion, would be to install a thermal expansion tank. A thermal expansion tank has been a part of the building code since about 1992. You may want to consider installing one before you have a problem.

For more information concerning thermal expansion, log on to our Web site at [www.davidsonwater.com](http://www.davidsonwater.com) or visit the Web site for the American Backflow Prevention Association ([www.abpa.org](http://www.abpa.org)) for a discussion on current issues.

## 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 contaminants.

**NA:** Not applicable

**ND:** Not detected

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

**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.

## Retirement

Jim Hanes has retired from Davidson Water's Board of Directors. Jim attended his last board meeting in our C Boyce Sink Board Room on February 27, 2006. He served you, the membership, from 1984 to 2006, providing guidance and leadership. He will truly be missed. Ben Hege from the Arcadia area was elected to fill the vacancy left by Jim's retirement. We look forward to working with Ben for many years to come.

## 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:

The complete SWAP Assessment Report for

SOURCE	YAKIN RIVER
Inherent Vulnerability	High
Contaminant Rating	Moderate
Susceptibility Rating	High

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).