



Presented By
Davidson Water, Inc.

Annual
WATER
QUALITY
REPORT

Reporting Year 2011

PWS ID#: 0229025

Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals 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 or concerns about the information in this report. After all, well-informed customers are our best allies.

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 2012 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, Inc.:

- | | |
|---------------------|-----------|
| • Ben Hege | Section 1 |
| • Reid Smith | Section 2 |
| • John Greer | Section 3 |
| • Richard Motsinger | Section 4 |
| • Danny Fitzgerald | At Large |

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.

Where Does My Water Come From?

The Davidson Water, Inc., Water Treatment 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.

Go Green with EBill!

Saving Money and Resources

Davidson Water, Inc., offers electronic billing (E-bill) to our customers. When you switch to E-bill, you will receive your regular monthly bill on the normal billing date by e-mail notification. You can then log on to our website at www.davidsonwater.com and immediately view your bill. Simply call our office to sign up. Our customers can also take advantage of paying online with a credit or debit card for no charge at www.davidsonwater.com. This online service through our official website is a quick and easy way to assure that your bill is paid in a timely manner. When you use our official website, you can be confident that your payment will be received by us within one business day. NOTE: Payment websites such as “charge smart” may sometimes appear when you use a search engine to find Davidson Water, Inc. These websites charge a fee to use their services to pay your bill. Paying through your bank’s website is available; however, using any online form of payment besides our website can take up to a week, sometimes longer, for us to receive the actual payment.

Davidson Water, Inc. also offers a convenient Automatic Bank Draft Option for our customers. The Automatic Bank Draft Option not only saves you the cost of postage, but ensures that your bill is paid on time. With the Auto-Draft option you will still receive your monthly bill detailing the monthly charges. Your bill will also show the amount, and the date, that will be drafted from your bank account each month.

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
Inherent Vulnerability	High
Contaminant Rating	Moderate
Susceptibility Rating	High

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.

QUESTIONS?

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

System Improvement Update

On March 12, Davidson Water held its 39th annual meeting of its members, and what would have been the 44th annual meeting for North Davidson Water, which was incorporated in 1967 and started serving water to its members in April of 1969. From 1969 through 1973, four other corporations were formed to provide water to their communities. They were West Davidson Water, Inc., Wallburg Water, Inc., Hasty Water, Inc., and East Central Water, Inc. In August of 1973, all five systems merged to form Davidson Water, Inc. We have now provided water to our members for 43 years, serving 2,880 members at commencement and now providing service to over 59,000 members.

Having adequate well-trained personnel to meet the needs of 59,000 plus members, over 145,000 population, is essential along with keeping abreast of and use of new technological advances in the office, in the field, and at the water plant.

Our office staff continues to upgrade and implement new software systems to improve customer service. The meter department now has over 28,000 AMR meters installed, which provides more reliable readings. With future improvements to AMR meters, we should be able to alert customers of potential problems they may have, such as leaks or pressure problems. We hope to have all our meters switch to AMR meters within the next five years.

We continue to work on our new GIS software system and implementing it into our work order, mapping, and asset management systems.

Phase I of our water plant upgrade (a new river intake, river pumps, raw water pumps, and new 100-million-gallon reservoir) is completed, tested, and in service. Bids on Phase II of our water plant upgrade (a new 15 mgd plant, 5 mg clearwell, 40 mgd flashmix, GAC contactors, sludge thickener, additional chemical storage, and a new high-service pump station) have been taken and construction is underway. Phase II should be completed by May 2013. With the new plant up and running, we will be able to take our existing plant out of service for general maintenance and to make improvements to the settling basins and filter processing procedures. The new 5 mg clearwell, flashmix, chemical storage, and GAC contactors can be utilized by our existing plant.

The old sayings “It’s better to look ahead and prepare than to look back and regret” and “Today’s preparation determines tomorrow’s achievement” are certainly true when it comes to providing life-sustaining water to you, our members.

Lead in Home Plumbing

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. We are 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 800 426-4791 or at www.epa.gov/safewater/lead.

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 <http://water.epa.gov/drink/hotline>.

Fact *or* Fiction

Tap water is cheaper than soda pop. *(Fact: You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a single six-pack of soda pop. And water has no sugar or caffeine.)*

Methods for the treatment and filtration of drinking water were developed only recently. *(Fiction: Ancient Egyptians treated water by siphoning water out of the top of huge jars after allowing the muddy water from the Nile River to settle. And Hippocrates, known as the father of medicine, directed people in Greece to boil and strain water before drinking it.)*

A typical shower with a non-low-flow shower head uses more water than a bath. *(Fiction: A typical shower uses less water than a bath.)*

Water freezes at 32 degrees Fahrenheit. *(Fiction: You can actually chill very pure water past its freezing point (at standard pressure) without it ever becoming solid.)*

The Pacific Ocean is the largest ocean on Earth. *(Fact: The Atlantic Ocean is the second largest and the Indian Ocean is the third largest.)*

A single tree will give off 70 gallons of water per day in evaporation. *(Fact)*

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

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. 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 (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2011	[4]	[4]	2.5	1.9–3.0	No	Water additive used to control microbes
Fluoride (ppm)	2011	4	4	0.73	0.05–1.40	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2011	60	NA	28.5	17.9–43.6	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	32.9	18.2–70.4	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] ¹ (ppm)	2011	TT	NA	0.86	ND–1.25	No	Naturally present in the environment
Turbidity (NTU)	2011	TT=1 NTU	NA	0.29	0.05–0.29	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT=95% < 0.3 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	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2010	1.3	1.3	0.05	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2010	15	0	5	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE)²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Haloacetic Acids [HAA]–IDSE Results (ppb)	2008	41.5	34.0–53.3	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–IDSE Results (ppb)	2008	42.6	25.9–86.0	By-product of drinking water disinfection

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

² We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

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).

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