

2015 Annual Drinking Water Quality Report

Orange-Alamance Water System, Inc.

PWS ID# 03-68-020

The Board of Directors and personnel of Orange-Alamance Water System, Inc. are pleased to present to you this year's Annual Drinking Water Quality Report. This report is to inform our customers about last year's water quality. Included are details about where your water comes from, how your water is treated, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. If you have any questions about this report or concerning your water, please contact Dale Hamby, water plant manager, at (919)732-7812. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Board of Directors meetings that are held on the last Thursday of each month at 5:00 p.m. at the water system office located at 5900 US 70, Mebane, NC. Our telephone number is (919)563-6212.

What EPA Wants You to Know

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC 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).

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. Orange-Alamance Water System, 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 <http://www.epa.gov/safewater/lead>.

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants 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, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water 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 storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

The water that is used by this system is surface, ground, and purchased water. Orange-Alamance has Eno River/Corporation Lake as its raw (untreated) water source and Lake Orange provides additional water during drought conditions. The Eno River/Corporation Lake is located in Efland, NC. Other sources of water include deep wells located at our water treatment plant in Efland, NC and deep wells at our Kimrey water tank on Hwy 119 S in Mebane, NC. Water is also purchased from the Town of Haw River. The purchase water is obtained from Lake Cammack and Lake Mcintaosh in the City of Burlington, NC. The Town of

Sweptonville has also provided Orange-Alamance with water in emergency situation situations. This purchased water is obtained from Graham-Mebane lake in Mebane, NC. During low flow periods or emergency situations, water is also purchased from the City of Mebane which is treated water from Graham-Mebane Lake in Mebane, NC.

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 assessment 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 each source for Orange-Alamance Water System, Inc. 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 are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

<u>Source Name</u>	<u>Susceptibility Rating</u>	<u>SWAP Report Date</u>
Well #1	Moderate	July 11,2015
Well #2	Moderate	July 11,2015
Well #3	Moderate	July 11,2015
Well #4	Moderate	July 11,2015
Eno River/Corp. Lake	Moderate	July 11,2015

The complete SWAP Assessment report for Orange-Alamance Water System, Inc. may be viewed on the Web at: www.ncwater.org/pws/swap. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

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

Help Protect Your Source Water

Protection of drinking water is everyone’s responsibility. You can help protect your community’s drinking water source(s) in several ways: (examples: dispose of chemicals properly; take used motor oil to a recycling center, volunteer in your community to participate in group efforts to protect your source, etc.).

Violations that Your Water System Received for the Report Year

Orange-Alamance Water System, Inc. was not issued any violations of drinking water quality standards in 2015. Orange-Alamance is required to monitor drinking water for specific contaminants on a regular basis. Results of regular monitoring determine whether or not our drinking water meets health standards. A **monitoring** violation means that water was not tested on time. A **reporting violation** means that the samples were analyzed, but the results were either not reported or reported incorrectly.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that Orange-Alamance and/or the Town of Haw River, and the City of Burlington **detected** in the last round of sampling for each particular contaminant group. The presence of contaminants does **not** necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2015.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of a contaminant and whether regulations are warranted.

Important Drinking Water Definitions:

Not-Applicable (N/A) – Information not applicable/not required for that particular water system or for that particular rule.

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

Parts per million (ppm) or Milligrams per liter (mg/L) - One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

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

Locational Running Annual Average (LRAA) – The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

Maximum Residual Disinfection Level (MRDL) – 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.

Maximum Residual Disinfection Level Goal (MRDLG) – 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.

Maximum Contaminant Level (MCL) - 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.

Maximum Contaminant Level Goal (MCLG) - 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.

Tables of Detected Contaminants

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Orange-Alamance	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	N/D	0	1 positive sample / month*	Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	N	N/D	0	Note Below	Human and animal fecal waste
Contaminant (units)	MCL Violation Y/N	City of Burlington	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	.68% average	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	N	N/D	0	Note Below	Human and animal fecal waste

- If a system collecting fewer than 40 samples per month has two or more positive samples in one month, the system has a MCL violation.
Note: If either an original routine sample and/or its repeat samples(s) are fecal coliform or *E. coli* positive, a Tier 1 violation exists.

Turbidity*

Contaminant (units)	MCL Violation Y/N	MCLG	(TT) violation if:	OAWS	Burlington	Likely Source of Contamination
<u>Turbidity (NTU)</u>	N	N/A	Turbidity > 1 NTU	.15	.28	Soil runoff
Highest single turbidity measurement						
<u>Turbidity (NTU)</u>	N	N/A	Less than 95% of monthly turbidity measurements are	0%	0%	Soil runoff
Lowest monthly percentage (%) of samples meeting turbidity limits			≤ 0.3 NTU			

* 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.

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	OAWS	Range	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	4/13/15	N	.67	.47 - .90	4	4	Erosion of natural deposits; water additive which
Contaminant (units)	Sample Date	MCL Violation Y/N	City of Burlington	Range	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	4/22/16	N	.55	.39 - .78	4	4	promotes strong teeth; discharge from fertilizer and aluminum factories

Unregulated Inorganic Contaminants

Contaminant (units)	Sample Date	OAWS	Range	Secondary MCL
Sulfate (ppm)	4/13/15	18	N/A	250.0
Contaminant (units)	Sample Date	City of Burlington	Range	Secondary MCL
Sulfate (ppm)	4/22/15	31	N/A	250.0

Lead and Copper Contaminants

Contaminant (units)	Sample Date	OAWS	# of sites above the AL	MCLG	Action Level	Likely Source of Contamination
Copper (ppm)	8/12/13	.136	0	1.3	1.3	Corrosion of household plumbing
(90 th percentile)						Erosion of natural deposits
Lead (ppm)	8/15/13	N/D	2	0	15	Corrosion of household plumbing
(90 th percentile)						Erosion of natural deposits
Contaminant (units)	Sample Date	Town of Haw River	# of sites above the AL	MCLG	Action Level	Likely Source of Contamination
Copper (ppm)	7/15/15	.05	0	1.3	1.3	Corrosion of household plumbing
(90 th percentile)						Erosion of natural deposits
Lead (ppm)	7/15/15	N/D	0	0	15	Corrosion of household plumbing
(90 th percentile)						Erosion of natural deposits

Total Organic Carbon (TOC)

Contaminant (units)	TT Violation Y/N	OAWS (RAA)	Range	MCLG	TT	Likely Source of Contamination	Compliance Method
Total Organic Carbon	N	1.49	1.33 - 1.64	N/A	TT	Naturally present in the environment	Step 1

Disinfectant Residual Summary

Contaminant (units)	Year Sampled	MRDL violation Y/N	OAWS	Range	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2015	N	2.1	1.72 - 2.49	4	4.0	Water additive used to control microbes
Chloramines (ppm)	2015	N	1.78	1.08 - 2.73	4	4.0	Water additive used to control microbes

Stage2 Disinfection Byproduct Compliance

Contaminant (units)	Year Sampled	MCL violation Y/N	OAWS	Range	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)			(Highest LRAA)				By-product of drinking water chlorination
(Total Trihalomethanes)	2015	N	60	45 - 60	N/A	80	chlorination
HAA5 (ppb)							By-product of drinking water chlorination
(Total Haloacetic Acids)	2015	N	38	26 - 38	N/A	60	chlorination
Contaminant (units)	Year Sampled	MCL violation Y/N	Haw River	Range	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)			(Highest LRAA)				By-product of drinking water chlorination
(Total Trihalomethanes)	2015	N	47.8	34 - 53.6	N/A	80	chlorination
HAA5 (ppb)							By-product of drinking water chlorination
(Total Haloacetic Acids)	2015	N	36.9	34.7 - 41.9	N/A	60	chlorination

For TTHM: *Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.*

For HAA5: *Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer*

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water.

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	OAWS	Range	SMCL
Sodium (ppm)	6/13/15	21	N/A	N/A
Sulfate (ppm)	4/13/15	18	N/A	250 mg/L
pH	4/13/15	7.6	N/A	6.5 – 8.5
Contaminant (units)	Sample Date	City of Burlington	Range	SMCL
Sodium (ppm)	4/22/15	27.5	N/A	N/A
Sulfate (ppm)	4/22/15	36	N/A	250 mg/L
pH	not provided	7.99	N/A	6.5 – 8.5