

“2015” Annual Drinking Water Quality Report

“Town of Spring Lake”

PWS ID# “03-26-020”

ORC – Dean Byrd

Questions may be directed to the Water Resources Department at Town Hall, 910-436-0241

We are pleased to present to you this year’s Annual Drinking Water Quality Report. This report is a snapshot of last year’s water quality. Included are details about from where your water comes, 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 Byron Blumenfeld at (910) 436-0241x 1604 or 1612.... 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 meetings. They are held every other Monday at Town Hall.**

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 microbiological 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. The Town of Spring Lake 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 purchased from both PWC and Hamett County. Reports from both of our sources are included.

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 The Town of Spring Lake 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 tables below:

Thank you,

Byron Blumenfeld
Town of Spring Lake
Water Resources Director
910-436-0241

2015 Consumer Confidence Report Tables

Harnett County

SWAP Result Summary			
Source Name	Inherent Vulnerability Rating	Contaminant Rating	Susceptibility rating
CAPE FEAR RIVER	Higher	Moderate	Higher

Misc. Water Characteristics Contaminants			
Contaminant (units)	Sample Date	Your Water	Secondary MCL
pH	1/6/15	7.2	6.5 to 8.5
Manganese (ppm)	1/6/15	0.012	0.05
Sulfate (ppm)	1/6/15	31.5	250
Sodium (ppm)	1/6/15	22.89	NA

Turbidity (NTU)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source
Highest single measurement	N	0.1	Turbidity > 1 NTU	Soil runoff
Lowest monthly percentage of samples meeting turbidity limits	N	100%	Less than 95% of monthly Turbidity measurements are ≤ 0.3 NTU	

CONTAMINANT TEST RESULTS							
Contaminant [code] (units)	MCL	MCLG	Your Water	Range	Date of Sample	Violation	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria (presence or absence)	> 5 %	0	2.1%	N/A	N/A	N	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	0	0	0%	N/A	N/A	N	Human and Animal Fecal Waste
Regulated Inorganic Contaminants							
Fluoride (ppm)	4	4	0.54	N/A	1/6/15	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Lead and Copper Contaminants							
Copper (ppm) 90 th Percentile	AL=1.3	1.3	0.098	N/A	8/20/13-9/20/13	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) 90 th Percentile	AL=15	0	N/D	N/A	8/20/13-9/20/13	N	Corrosion of household plumbing system; erosion of natural deposits
Asbestos Contaminants							
Total Asbestos (MFL)	7	7	N/D	N/A	1/13/11	N	Decay of Asbestos cement water mains; Erosion of natural deposits

Disinfection By-Product Precursors Contaminants							
Contaminant (units)	TT Violation Y/N	Your Water Ratio	Range Ratio	MCLG	MCL	Likely Source of Contamination	Compliance Method
Total Organic Carbon (Ratio)	N	1.36	1.13-1.52	N/A	TT	Naturally present in the environment	Step 1

Step 1 TOC Removal Requirements			
Source Water TOC (Mg/L)	Source Water Alkalinity Mg/L as CaCO ₃ (in Percentages)		
	0-60	>60-120	>120
>2.0 – 4.0	35.0	25.0	15.0
>4.0 – 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Additional Terms and Abbreviations

MCLG – Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

MCL – Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available Treatment technology.

TT – Treatment Technique – is a required process intended to reduce the level of contaminant in drinking water.

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

MFL – Million Fibers per Liter – A measurement of the presence of asbestos fibers that are longer than 10 micrometers.

LRAA – Locational Running Annual Average – 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.

Disinfection By-Product Contaminants							
Contaminant	YEAR	MCL	MCLG	Your Water LRAA	Range Individual Results	Violation	Likely Source of Contamination
<u>TTHM (ppb)</u>	2015	80	N/A	33.5		N	By-product of chlorination
<u>TTHM (ppb) B01</u>	2015	80	N/A		27-49	N	
<u>TTHM (ppb) B02</u>	2015	80	N/A		23-50	N	By-product of chlorination
<u>TTHM (ppb) B03</u>	2015	80	N/A		20-43	N	By-product of chlorination
<u>TTHM (ppb) B04</u>	2015	80	N/A		26-49	N	By-product of chlorination
<u>TTHM (ppb) B05</u>	2015	80	N/A		23-49	N	By-product of chlorination
<u>TTHM (ppb) B06</u>	2015	80	N/A		22-43	N	By-product of chlorination
<u>TTHM (ppb) B07</u>	2015	80	N/A		19-38	N	By-product of chlorination
<u>TTHM (ppb) B08</u>	2015	80	N/A		27-48	N	By-product of chlorination
<u>HAA5 (ppb)</u>	2015	60	N/A	27.3		N	By-product of chlorination
<u>HAA5 (ppb) B01</u>	2015	60	N/A		13.7-28.9	N	
<u>HAA5 (ppb) B02</u>	2015	60	N/A		12.9-33.1	N	By-product of chlorination
<u>HAA5 (ppb) B03</u>	2015	60	N/A		11.9-29.2	N	By-product of chlorination
<u>HAA5 (ppb) B04</u>	2015	60	N/A		12.6-30.9	N	By-product of chlorination
<u>HAA5 (ppb) B05</u>	2015	60	N/A		13.2-31.6	N	By-product of chlorination
<u>HAA5 (ppb) B06</u>	2015	60	N/A		8.7-33.5	N	By-product of chlorination
<u>HAA5 (ppb) B07</u>	2015	60	N/A		13.1-25.7	N	By-product of chlorination
<u>HAA5 (ppb) B08</u>	2015	60	N/A		13.9-35.4	N	By-product of chlorination
<u>Chlorite (ppm) (Distribution)</u>	2015	1	0.8	0.326	0.270-0.360	N	By-product of chlorine dioxide
<u>Chlorine Dioxide (ppb)</u>	2015	800	800	82	0-565	N	Water additive used to control microbes
<u>Chloramines (ppm)</u>	2015	4	4	3.04	1.03-3.99	N	Water additive used to control microbes
<u>Chlorine (only month of March)(ppm)</u>	2015	4	4	1.65	0.25-3.62	N	Water additive used to control microbes

Unregulated Contaminant Monitoring Program

EPA uses the Unregulated Contaminant Monitoring (UCM) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Every five years EPA reviews the list of contaminants, largely based on the Contaminant Candidate List. The SDWA Amendments of 1996 provide for:

- Monitoring no more than 30 contaminants every five years
- Monitoring only a representative sample of public water systems serving less than 10,000 people
- Storing analytical results in a National Contaminant Occurrence Database (NCOD)

The UCM program progressed in several stages. Currently, EPA manages the program directly as specified in the Unregulated Contaminant Monitoring Rule (UCMR). The history of the UCM program includes:

- UCMR 3 (2012-2016) – Current regulation monitoring for 30 contaminants (28 chemicals and 2 viruses) from 2012-2015.
- UCMR 2 (2007-2011) - UCMR 2 monitoring was managed by EPA and established a new set of 25 chemical contaminants sampled during 2008-2010.
- UCMR 1 (2001-2005) – The SDWA Amendments of 1996 redesigned the UCM program to incorporate a tiered monitoring approach and required monitoring for 25 contaminants (24 chemicals and one bacterial genus) during 2001-2003.
- UCM-State Rounds 1 & 2 (1988-1997) – State drinking water programs managed the original program and required public water systems (PWSs) serving more than 500 people to monitor contaminants.

Harnett County Public Works				Report # 332059				
Clearwell Effluent				PWS ID NC0343045				
UCMR Assessment Monitoring								
Analyte ID #	Analyte	Method	MRL †	Result	Unit	Preparation Date	Analyzed Date	EEA ID #
1051	Strontium	200.8	0.3		µg/L			
1088	Vanadium	200.8	0.2		µg/L			
1080	Chromium, Hexavalent	218.7	0.03		µg/L			
1007	Chorate	300.1	20		µg/L			
2049	1,4 - Dioxane	522	0.07	4.8	µg/L	01/14/2015 07:20	01/14/2015 18:12	3167966
2802	Perfluoroheptanoic acid(PFHpA)	537	0.01		µg/L			

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices

Harnett County Public Works				Report # 336670				
Metro Water BPS #1				PWS ID NC0343045				
UCMR Assessment Monitoring								
Analyte ID #	Analyte	Method	MRL †	Result	Unit	Preparation Date	Analyzed Date	EEA ID #
1051	Strontium	200.8	0.3	47	µg/L	3/24/2015 12:15	3/25/2015 20:55	3209395
1080	Chromium, Hexavalent	218.7	0.03	0.04	µg/L		3/23/2015 22:06	3209398
1007	Chorate	300.1	20	290	µg/L		3/24/2015 17:49	3209397

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices

Harnett County Public Works				Report # 336671				
Clearwell Effluent				PWS ID NC0343045				
UCMR Assessment Monitoring								
Analyte ID #	Analyte	Method	MRL †	Result	Unit	Preparation Date	Analyzed Date	EEA ID #
1051	Strontium	200.8	0.3	46	µg/L	3/24/2015 12:15	3/25/2015 21:01	3209424
1080	Chromium, Hexavalent	218.7	0.03	0.03	µg/L		3/23/2015 22:19	3209423
1007	Chorate	300.1	20	220	µg/L		3/24/2015 18:13	3209422
2049	1,4-Dioxane	522	0.07	2.5	µg/L	3/27/2015 11:14	3/27/2015 19:48	3209419

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices

NOTICE TO THE PUBLIC

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Violation Awareness Date: May 22, 2015

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the compliance period specified in the table below, we [‘did not monitor or test’ or ‘did not complete all monitoring or testing’] for the contaminants listed and therefore cannot be sure of the quality of your drinking water during that time.

CONTAMINANT GROUP**	FACILITY ID NO./ SAMPLE POINT ID	COMPLIANCE PERIOD BEGIN DATE	NUMBER OF SAMPLES/ SAMPLING FREQUENCY	WHEN SAMPLES WERE TAKEN (Returned to Compliance)
WATER QUALITY PARAMETERS	NC0343045	MAY 2, 2015	ONLINE SAMPLING EVERY 15 MINUTES – HAD GONE TO EVERY 4 HOUR AS PER REGULATIONS	May 4, 2015

(WQP) Water Quality Parameters Filter #4 Turbidity – Online Turbidimeter failure

What should I do? There is nothing you need to do. Filter #4 online turbidimeter failed and water plant personnel went to grab sampling every four hours as per regulation. Plants serving over 10,000 customers have five days to get replacement. We acquired the new instrumentation and installed on May 4, 2015, but was greater than five days. The filter #4 grab sampling during instrument failure indicated that there were no turbidity issues with the filter.

What is being done? Harnett County Regional Water Treatment Plant has purchased a spare Hach Filter Trac 660 Turbidimeter and put on shelf for future use in case of instrumentation failure and to forgo having to try and emergency ship the instrument by five days.

For more information about this violation, please contact the responsible person listed in the first paragraph of this report.

PWC

TABLE I -- FILTERED WATER QUALITY DATA (Regulated)

Parameters	Unit	MCL	MCLG	MCL Violation Y/N	Your Water Level	Range of Detected Levels	Date Most Recent Testing Completed(b)	Source
Barium	mg/l	2	2	N	<0.4		1/15	Erosion of natural deposits; discharge of drilling wastes; discharge from metal from refineries
Copper	mg/l	AL-1.3	1.3	N	0.053	<0.05 – 0.16	6/14	Corrosion of household plumbing systems; erosion of natural deposits leaching from wood preservatives
Fluoride	mg/l	4	4	N	0.72	0.30 - 0.91	12/15	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum deposits
Lead	ug/l	AL-15	0	N	0.001(b)	0.001 – 0.032	6/14	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate	mg/l	10	10	N	<1.0		1/15	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Asbestos	MFL	7	7	N	<0.2	NA	6/11	Decay of asbestos cement water mains; erosion of natural deposits

(a) Compliance is based on a running annual average of 32 quarterly distribution system samples.

(b) Data presented in this table are from the most recent testing performed in accordance with Federal and State regulations.

TABLE II -- (Non Regulated)

Detected Levels

Parameters	Unit	Your Water	SDWR	MCLG	Source
Alkalinity	mg/l	22.2	NS	NS	Erosion of natural deposits, water treatment processes
Hardness	mg/l	3.13	NS	NS	Presence of mineral deposits most commonly calcium and magnesium
Iron	mg/l	<0.20	0.3	NS	Erosion of natural deposits
Manganese	mg/l	<0.20	0.05	NS	Erosion of natural deposits
pH	pH units	7.8	7.0 – 8.65	NS	Measurement of acid or base neutralizing capacities of water
Sodium	mg/l	11.73	NS	NS	Erosion of natural deposits, chemical use in water treatment
Sulfate	mg/l	34.7	250	NS	Erosion of natural deposits, decay or organic matter

TABLE III -- VOC CONTAMINANTS (Non Regulated) *

Detected Levels

Parameters	Unit	Your Water	Range of Detected Level	Sample Date
Chloroform	ug/L	20.75	18.00 – 22.00	11/15
Bromodichloromethane	ug/L	13.88	13.00 – 15.00	11/15
Bromoform	ug/L	<0.001	<0.001 - <0.001	11/15
Chlorodibromomethane	ug/L	5.34	5.00 – 6.00	11/15

* These compounds are associated with chlorine disinfection.

TABLE IV – TURBIDITY (a)

Parameters	Unit	MCL	Your Water	Average	Range	MCLG Violation	Source
Turbidity	NTU	95% of samples <0.30	100.00% <0.3 NTU	0.06	0.03 - 0.28	N	Soil runoff

(a) Turbidity is a measure of the cloudiness of the water. PWC monitors it because it is a good indicator of the effectiveness of PWC's filtration system.

TABLE V -- MICROBIOLOGICAL CONTAMINANTS

PWC Surface Water Distribution

Parameters	MCL	MCLG	MCL Violation	Your Water	Source
Total Coliform Bacteria	5% of monthly samples are positive	0	N	0.81%	Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	A routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	0	N	0.00%	Human and animal fecal waste

TABLE VI -- Disinfection By--Product Precursors Contaminants

Contaminant (units)	Sample Date	MCL/TT Violation Y/N	Your Water	Range Low-High	MCLG	MCL	Likely Source of Contamination
Total Organic Carbon (ppm) (TOC)-RAW	Monthly	N	N/A	4.90 – 8.80	N/A	TT	Naturally present in the environment
Total Organic Carbon (ppm) (TOC)-TREATED	Monthly	N	2.04	1.70 – 2.70	N/A	TT	Naturally present in the environment

Note: 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 that, we are in violation of a Treatment Technique.

TABLE VII -- Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (mg/L) (90 th percentile)	6/6/14	<0.05	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ug/L) (90 th percentile)	6/6/14	1.00	3	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

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. The Public Works Commission 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 (1-800-426-4791), or at <http://www.epa.gov/safewater/lead>.

Table VIII Stage 2 Disinfection Byproduct Compliance - Based upon Locational Running Annual Average (LRAA)

Disinfection Byproduct	Year Sampled	MCL Violation Y/N	Your Water (highest LRAA)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)			52		N/A	80	Byproduct of drinking water disinfection
Location B01	2015	N		31-68	N/A	80	
Location B02	2015	N		35-67	N/A	80	
Location B03	2015	N		35-73	N/A	80	
Location B04	2015	N		33-67	N/A	80	
Location B05	2015	N		34-71	N/A	80	
Location B06	2015	N		30-68	N/A	80	
Location B07	2015	N		35-69	N/A	80	
Location B08	2015	N		32-65	N/A	80	
HAA5 (ppb)			32		N/A	60	Byproduct of drinking water disinfection
Location B01	2015	N		18-31	N/A	60	
Location B02	2015	N		19-33	N/A	60	
Location B03	2015	N		19-31	N/A	60	
Location B04	2015	N		19-35	N/A	60	
Location B05	2015	N		18-28	N/A	60	
Location B06	2015	N		20-28	N/A	60	
Location B07	2015	N		18-29	N/A	60	
Location B08	2015	N		18-33	N/A	60	

Table IX Disinfectant Residuals Summary

	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)*	2015	N	2.17	1.03 - 2.17	4	4	Water additive used to control microbes
Chloramines (ppm)	2015	N	2.90	2.50 - 3.35	4	4	Water additive used to control microbes

**Chlorine disinfection is used only during the month of March each year.*