ABOUT THIS REPORT

Each year, the Cape Fear Public Utility Authority will prepare a Drinking Water Quality Report for its customers as mandated by Federal law (1996 amendment to the Safe Drinking Water Act (SDWA). This report provides important details about the quality of the drinking water we provide to our community.

NO VIOLATIONS

We are pleased to report that during 2014 or during any compliance period ending in 2014 there were NO violations of drinking water standards.

STAGE 2 **DISINFECTANTS**/ DISINFECTION BY-PRODUCTS RULE

The Authority requested and was granted a waiver of the Stage 2 Disinfectants/ Disinfection By-Products (DBP) Rule in March of 2012. This waiver allows the Authority to complete construction of the Sweeney Water Treatment Plant and to construct interconnections, new pipelines and other modifications associated with improvements necessary to enable the Authority to comply with the new rules that became effective April 1, 2012. The waiver expired on March 30, 2014.

EN ESPANOL

Este informe contiene informacion muy importante. Traduzcalo o hable con un amigo quien to entienda bien.

A Message from our **Executive Director:**

In 2014, thanks to our professional and dedicated staff, CFPUA marked its sixth year of delivering reliable water and wastewater services that provide the backbone for our community's way of life. Every day we treat and distribute life's most precious resource - millions of gallons of clean, reliable drinking water - to nearly 200,000 people in the City of Wilmington and New Hanover County.

I am proud to present our annual Drinking Water Quality Report for the 2014 calendar year and encourage you to read it to learn more about the water being sent to your home, business, school, hospital or favorite restaurant. It details where your water comes from, how it's treated, and the degree that it is tested before it comes out of your tap.

Our laboratory conducts tens of thousands of tests every year to ensure the safety of your drinking water. This report provides an extensive list of what we test for in your water and information on how we meet or exceed the many drinking water regulations established by the state of North Carolina and the U.S. Environmental Protection Agency.

The people of the Cape Fear Public Utility Authority will continue to work 24 hours a day with three guiding principles at the heart of everything that we do: STEWARDSHIP to the environment and community, SUSTAINABILITY of our infrastructure and operations, and the delivery of a high level of **SERVICE** at the lowest practical cost to our customers. We play an important role in the daily lives of the people we serve and we hope the results found in this report demonstrate to you, our customer, how seriously we take this responsibility.

As always, CFPUA staff will gladly speak with you and your neighbors about the results found in this water quality report. We would also enjoy any available opportunity to talk to you about our other duties and to address any issues of interest to your homeowners association, civic organization or community group. To set up such a conversation, please contact Mike McGill, Chief Communications Officer, at (910) 332-6704 or communications@cfpua.org.

Regards,

James R. Flechtner, P.E. **Executive Director**

Cape Fear Public Utility Authority

CFPUA's Water Systems and Service Areas

When you turn on your tap, consider the source. The Cape Fear Public Utility Authority processes and distributes treated drinking water within New Hanover County through four different water systems. The largest system CFPUA/City (PWS #04-65-010) distributes water within the City of Wilmington city limits, parts of the Ogden area, parts of Monkey Junction and the King's Grant. Water is provided to the system by the Sweeney Water Treatment Plant, whose source water is surface water that is drawn from the Cape Fear River. The next largest system CFPUA/NHC (PWS #04-65-232) distributes water to portions of the northern part of New Hanover County including Murrayville, Wrightsboro, parts of Castle Hayne, Porters Neck and parts of the Ogden Area. Water is provided to this system by the CFPUA Nano-filtration Membrane Facility whose source water is groundwater wells drawing from the Castle Hayne and Pee Dee Aquifers. Two smaller systems CFPUA/421 System (PWS #04-65-191), distributing water in the Flemington area, and CFPUA/Monterey Heights water system (PWS #04-65-137), distributing water in Monterey Heights, Woodlake, Laurel Ridge/S. Myrtle Grove, Lord's Creek and Veteran's Park area provide treated groundwater from wells which draw water from the Castle Hayne and surficial aquifers. A staff of highly trained, state certified water treatment operators and a team of skilled maintenance technicians keep all these facilities fully operational 24 hours per day, 7 days per week to insure a safe, high quality, reliable drinking water source. Look through this report to learn more so you can make informed decisions about your drinking water and know the preventative measures taken to protect this valuable resource and ensure safe, clean drinking water.

What the EPA wants you to know...

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some natural substances. The presence of these substances does not necessarily indicate that water poses a health risk.

Some people may be more vulnerable to substances 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 substances are available from the Safe Drinking Water Hotline.

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. Substances that may be present in source water include microbial substances, such as

viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wild-life; inorganic substances, such as salts and metals, which can be naturally-occurring or 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 substances, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive substances, which can be naturally-occurring or be the result of oil production and mining activities.

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

EPA
Safe Drinking
Water Hotline
1-800-426-4791

Water quality data tables of detected substances

We routinely monitor for over 150 substances in your drinking water according to Federal and State laws. The tables on the following pages list all the drinking water substances that CFPUA detected in the last round of sampling for the particular substance group. The presence of these substances does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in these tables is from testing done January 1 through December 31, 2014. The EPA and the State of North Carolina requires us to monitor for certain substances less than once per year because concentrations of these substances 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 substances are those for which the EPA has not established drinking water standards. The purpose of unregulated substance monitoring is to assist the EPA in determining the occurrence of unregulated substances in drinking water and whether future regulation is warranted. A glossary of terms used in these tables can be found below

Definitions

AL/Action Level = The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. The action levels are reported at the 90th percentile for homes at greatest risk. Average = Approximate or summary concentration, determined by dividing the total of all results by the number of analysis. MCL** (Maximum Contaminant Level) = The highest level of a contaminant that is allowed in drinking water based on potential health effects. MCLG (Maximum Contaminant Level Goal) = The level of a contaminant in drinking water below which there is no known or expected risk to health. MRDLG (Maximum Residual Disinfection 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. MRDL (Maximum Residual Disinfection Level) = the highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants. MRDLG (Maximum Residual Disinfection Level Goal) = The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants. N/A = Not applicable. ND (Non-Detects) = Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used. NTU (Nephelometric Turbidity Unit) = A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. pCi/L (Picocuries per liter) = measures radioactivity in water. PPM (parts per million) or Milligrams per liter (mg/L) = One part per million corresponds to one minute in two years or a single penny in \$10,000. PPB (parts per billion) or Micrograms per liter (µg/L) = One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000. Range = These are the lowest to the highest levels detected. TT (Treatment Technique) = A required process intended to reduce the level of contaminant in drinking water. Turbidity MCL = Less than 0.3 NTU's in 95% of all samples collected. **MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

2014 ANNUAL WATER QUALITY REPORT

CFPUA/CITY – PWS ID #04-65-010 (Surface Water/Sweeney Water Treatment Plant)

Service to City of Wilmington, Ogden, Monkey Junction, Kings Grant

MICROBIOLOGICAL SUB	MICROBIOLOGICAL SUBSTANCES										
Substance (units)	Substance (units) MCL Violation Your Water MCL		MCLG	MCL exceeded if:	Likely Source						
Total Coliform Bacteria (presence or absence)	NO	< 0.01%	0	5% of monthly samples are positive	Naturally present in the environment						
Fecal Coliform or E. coli (presence or absence)	NO	0	0	(Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste						

TURBIDITY * - Systems with population ≥ 10,000									
Substance (units)	TT Violation	Your Water	MCLG	Treatment Technique (TT) Violation if:	Likely Source				
Turbidity (NTU) Highest single turbidity measurement	NO	0.104	N/A	Turbidity > 1 NTU					
Turbidity (NTU) Lowest monthly percentage (%) of samples meeting turbidity limits	NO	100%	N/A	Less than 95% of monthly turbidity measurements are \leq 0.3 NTU	Soil runoff				

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 SUBSTANCES									
Sub	Substance (units)	Sample Date	MCL Violation	Your	Range		MCLG	MCL	Likely Source	
	Substance (units)	Sample Date		Water	Low	High	WICEG	WICE	Linely Cource	
	Fluoride (ppm) Sweeney WTP surface water source	Nov 12, 2014	NO	0.81	N/A	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizers and aluminum factories	

SYNTHETIC ORGANIC CHEMICAL (SOC) SUBSTANCES									
Substance (units)	Sample Date	MCL Violation	Your Water	Ra Low	nge High	MCLG	MCL	Likely Source	
Dalapon (ppb)	Quarterly	NO	ND	ND	ND	200	200	Runoff from herbicide used on rights-of-way	

NITRATE / NITRITE SUBSTANCES										
Substance (units)	Sample	MCL/MRDL		Range		MCLG	MCL	Likely Source		
oubstance (units)	Date	Violation		Low	High	MOLO		Enterly Course		
Nitrate (ppm)	April 2014	NO	0.64 mg/L	NA	NA	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits		

LEAD AND COPPER †	LEAD AND COPPER † (See page 7 for more information)										
Substance (units)	bstance (units) Sample Date You Wate		# of Sites Found Above the AL	MCI G		Likely Source					
Copper (ppm) 90th percentile	June/Sept 2014	0.166 ppm	0	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives					
Lead (ppb) 90th percentile	June/Sept 2014	<3.0 ppb	0	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits					

DISINFECTION BYPRODUCT PRECURSORS Our water system used [Step 1] as the method to comply with the disinfectants/disinfectant byproducts treatment technique requirements								
Substance (units)	MCL/TT Violation	Your Water (RAA Removal Ratio)	Monthly Removal Ratio				Likely Source	
Total Organic Carbon (TOC) Removal Ratio - TREATED	NO	1.48	136%	152%	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 the alternative % removal, we are in violation of a Treatment Technique (TT). Minimum % removal achieved was 59%.

TOC Removal Requirements								
Source Water TOC (mg/L)	Source Water Alkalinity mg/L as CaCO3 (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					

DISINFECTANTS AND DISI	NFECTION BYP	RODUCTS					DISINFECTANTS AND DISINFECTION BYPRODUCTS										
Cub-to (to)	MCL/MRDL	Your	Ra	ange	MOLO	MOI	Liberto Common										
Substance (units)	Violation	Water (AVG)	Low	High	MCLG	MCL	Likely Source										
TTHM [†] (ppb) Total Trihalomethanes**	NO	68.5	25.0	120.0	N/A	80	By-product of drinking water chlorination										
HAA5 (ppb) Total Haloacetic Acid	NO	26.75	11.0	36.0	N/A	60	By-product of drinking water disinfection										
Bromate (ppb)	NO	1.75	0	5.0	0	10	By-product of drinking water disinfection										
Chlorine (ppm)	NO	1.12	0.20	1.91	MRDLG = 4	MRDL = 4	Water additive used to control microbes										

^{**}Compliance based on Running Annual Average of all distribution samples

[†] 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

UCMR3 DATA - EN	TRY POINT					
Date	1,4 – dioxane	Chlorate	HexChromium	PFHpA	Strontium	Vanadium
12/5/13	4.68 µg/L	58 μg/L	0.037 μg/L	0.014 µg/L	44 µg/L	ND
3/11/14	ND	29 μg/L	-	ND	32 µg/L	ND
3/25/141	-	-	0.031 μg/L	-	-	-
6/9/14	0.52 μg/L	61 μg/L	0.048 μg/L	0.012 μg/L	52 μg/L	0.46 µg/L
9/8/14	0.38 μg/L	110 μg/L	0.065 μg/L	0.027 μg/L	50 μg/L	0.54 μg/L
Average	1.4 µg/L	65 μg/L	0.045 μg/L	0.013 μg/L	45 μg/L	0.25 μg/L
Range	ND - 4.68	29 - 110	0.031 - 0.065	ND - 0.027	32 - 52 μg/L	ND - 0.54 μg/L

UCMR3 DATA - DIST	RIBUTION SYSTEM				
Date	Chlorate	HexChromium	Stronium	Vanadium	Chromium
12/5/13	130 μg/L	0.054 μg/L	48 μg/L	0.20 μg/L	ND
3/11/14	83 µg/L	-	40 μg/L	ND	ND
3/25/141	-	0.049 μg/L	-	-	-
6/9/14	140 μg/L	0.10 μg/L	52 μg/L	0.50 μg/L	ND
9/8/14	220 μg/L	0.11 μg/L	54 μg/L	0.54 μg/L	0.30 μg/L
Average	143 μg/L	0.078 μg/L	49 μg/L	0.31 μg/L	0.075 μg/L
Range	83 - 220	0.049 - 0.11	40 - 54	ND - 0.54	ND - 0.30

Samples were collected according to sample schedule from Dec. 2013 to Sept. 2014

WATER CHARACTERISTICS SUBSTANCES

Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.

Substance (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
Sweeney WTP surface water source				
Barium	Nov 12, 2014	0.02	N/A	N/A
 Iron (ppm) 	Nov 12, 2014	<0.02	N/A	0.3 mg/L
Manganese (ppm)	Nov 12, 2014	<0.01	N/A	0.05 mg/L
Nickel (ppm)	Nov 12, 2014	<0.1	N/A	N/A
 pH (s.u.) 	Nov 12, 2014	7.0	N/A	6.5 to 8.5
 Sodium (ppm) 	Nov 12, 2014	31.6	N/A	N/A
Sulfate (ppm)	Nov 12, 2014	32.7	N/A	250 mg/L

Our system monitored for the following water quality parameters and found no detected levels: Asbestos (7/15/2013), Volatile Organic Compounds (7/9/2014), Radiological Substances (12/10/2014), and Cryptosporidium* (4/25/2013).

*Cryptosporidium, or Crypto, is a microbial parasite which is found in surface water throughout the U.S. Although Crypto can be removed by filtration, the most commonly used filtration methods cannot guarantee 100 percent removal. Our facility utilizes a multi-barrier approach for removal; Ozone is used as a pre-oxidant and disinfectant in both pre and intermediate treatment of our water prior to filtration. Monitoring of our source water indicates the presence of these organisms; however, current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infections include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks; however, immuno-compromised people have more difficulty and are at greater risk of developing severe, life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. Cryptosporidium must be ingested for it to cause disease, and it may be spread through means other than drinking water.

A sample for Hexavalent Chromium collected on 3/11/14 failed transport quality control standards. A repeat sample was collected March 25, 2014, for both entry point and distribution system.

CFPUA/NHC - PWS ID #04-65-232 (Groundwater/Nano-filtration)

Service to Northern New Hanover County, Ogden, Porters Neck, Murrayville, Wrightsboro, Castle Hayne

MICROBIOLOGICAL SUBSTANCES										
Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source					
Total Coliform Bacteria (presence or absence)	NO	480 tested / 0 positive	0	5% of monthly samples are positive	Naturally present in the environment					
Fecal Coliform or E. coli (presence or absence)	N/A	0	0	(Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste					

INORGANIC SUBSTA	INORGANIC SUBSTANCES											
Substance (units)	Sample Date	MCL	Your	Ra	Range		MCL	Likely Source				
oubstance (units)		Violation	Water	Low	High			,,				
Fluoride (ppm)	Dec 2012	NO	0.56	N/A	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizers and aluminum factories				

LEAD AND COPPER	LEAD AND COPPER † (See page 7 for more information)										
Substance (units)	Sample Date	Your Water	# of Sites Found Above the AL	MCLG	MCL	Likely Source					
Copper (ppm) 90th percentile	June-Sept 2013	0.31	0	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives					
Lead (ppb) 90 th percentile	June-Sept 2013	ND	0	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits					

RADIOLOGICAL SUBSTAN	RADIOLOGICAL SUBSTANCES *Note: The MCL for beta particles is 4 mrem/year. EPA considers 50pCi/L to be the level of concern for beta particles.										
Substance (units)	Sample Date	MCL Violation	Your MCLG MCL Likely Source			Likely Source					
Gross Beta (pCi/L)	Sept 2010	NO	ND	0	*50	Decay of natural and man-made deposits					
Combined Uranium (pCi/L)	Sept 2010	NO	ND	0	20.1	Erosion of natural deposits					
Uranium (pCi/L)	Sept 2010	NO	ND	0	20.1	Erosion of natural deposits					

DISINFECTANTS AND	DISINFECTANTS AND DISINFECTION BYPRODUCTS (STAGE 2)											
Substance (units)	Sample Date	MCL/MRDL	Your Water	Range		MCLG	MCL	Likely Source				
Substance (units)	Sample Date	Violation	(AVG)	Low	High	MICLG	WICL	Likely doubte				
TTHM (ppb) Total Trihalomethanes	Jan-Dec 2014	NO	33	18	46	N/A	80	By-product of drinking water chlorination				
HAA5 (ppb) Total Haloacetic Acid	Jan-Dec 2014	NO	16	9	22	N/A	60	By-product of drinking water disinfection				
Chlorine (ppm)	Jan-Dec 2014	NO	1.32	0.37	1.98	MRDLG = 4	MRDL = 4	Water additive used to control microbes				

WATER CHARACTERISTICS SUBSTANCES

Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.

Substance (units)	Sample Date	Your Water	Range Low/High	Secondary MCL	
Iron (ppm)	Dec 2012	ND	N/A	0.3	
Manganese (ppm)	Dec 2012	ND	N/A	0.05	
pH (s.u.)	Dec 2012	7.5	N/A	6.5 to 8.5	
Sodium (ppm)	Dec 2012	11.0	N/A	N/A	

CFPUA/MONTEREY HEIGHTS WATER SYSTEM - PWS ID #04-65-137 (Groundwater)

Service to Monterey Heights, Woodlake, Laurel Ridge/S. Myrtle Grove, Lord's Creek, Veteran's Park

MICROBIOLOGICAL SUBSTANCES										
Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source					
Total Coliform Bacteria (presence or absence)	NO	108 tested / 0 positive	0	More than 1 sample a month is positive	Naturally present in the environment					
Fecal Coliform or E. coli (presence or absence)	NO	0	0	(Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste					

INORGANIC SUBSTANCES									
Substance (units)	Sample Date	Sample Date MCL			Range		MCL	Likely Source	
oubstance (units)	Gumpie Bute	Violation	Water	Low	High	MCLG		o,	
Fluoride (ppm)	March 2013 & Sept 2014	NO	0.18	0.11	0.18	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizers and aluminum factories	

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LEAD AND COPPER † (LEAD AND COPPER † (See page 7 for more information)										
Substance (units)	Sample Date	Your Water	# of Sites Found Above the AL	MCLG	MCL	Likely Source					
Copper (ppm) 90th percentile	July-Dec 2013	0.481	0	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives					
Lead (ppb) 90th percentile	July-Dec 2013	3	0	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits					

DISINFECTANTS AND	DISINFECTANTS AND DISINFECTION BYPRODUCTS										
Substance (units) Sample Date	Sample	MCL/MRDL	Your	Ra	nge	MOI 0					
	Date	Violation	Water (AVG)	Low	High	MCLG	MCL	Likely Source			
TTHM (ppb) Total Trihalomethanes	Aug 2014	NO	33	28	38	N/A	80	By-product of drinking water chlorination			
HAA5 (ppb) Total Haloacetic Acid	Aug 2014	NO	19	15	22	N/A	60	By-product of drinking water disinfection			
Chlorine (ppm)	Jan-Dec 2014	NO	0.80	0.30	1.69	MRDLG = 4	MRDL = 4	Water additive used to control microbes			

WATER CHARACTERISTICS SUBSTANCES Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.									
Substance (units)	Sample Date Your Range Secondary MCL Water Low/High								
Iron (ppm)	Mar 2013 & Sept 2014	0.190	0.064 / 0.190	0.3					
Manganese (ppm)	Mar 2013 & Sept 2014	0.019	ND / 0.019	0.05					
pH (s.u.)	Mar 2013 & Sept 2014	8.1	7.6 / 8.1	6.5 to 8.5					
Sodium (ppm)	Mar 2013 & Sept 2014	20.2	8.0 / 20.2	N/A					

UNREGULATED INORGANIC SUBSTANCES									
Substance (units)	Sample Date	Your	Ran	Secondary					
	Sample Date	Water	Low	High	MCL				
Sulfate (ppm)	Mar 2013 & Sept 2014	8.5	ND	8.5	250 mg/L				

CFPUA/421 WATER SYSTEM - PWS ID #04-65-191 (Groundwater) Service to Flemington

MICROBIOLOGICAL SUBSTANCES									
Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source				
Total Coliform Bacteria (presence or absence)	NO	24 tested / 0 positive	0	More than 1 sample a month is positive	Naturally present in the environment				
Fecal Coliform or E. coli (presence or absence)	N/A	0	0	(Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste				

LEAD AND COPPER † (See page 7 for more information)									
Substance (units)	Sample Date	Your Water	# of Sites Found Above the AL	MCLG	MCL	Likely Source			
Copper (ppm) 90th percentile	June 2012	0.059	0	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives			
Lead (ppb) 90th percentile	June 2012	ND	0	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits			

NITRATE/NITRITE SUBSTANCES									
	MCL/MRDL	Your	Range						
Substance (units)	Sample Date	Violation	Water (AVG)	Low	High	MCLG	MCL	Likely Source	
Nitrate-as Nitrogen (ppm)	Feb 2014	NO	1.23	N/A	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits	

DISINFECTANTS AND DISINFECTION BYPRODUCTS									
		MCL/	Your	Range					
Substance (units)	Sample Date	MRDL Violation	Water (AVG)	Low	High	MCLG	MCL	Likely Source	
TTHM (ppb) Total Trihalomethanes	July 2012	NO	18	N/A	N/A	N/A	80	By-product of drinking water chlorination	
HAA5 (ppb) Total Haloacetic Acid	July 2012	NO	3	N/A	N/A	N/A	60	By-product of drinking water disinfection	
Chlorine (ppm)	Jan-Dec 2014	NO	1.34	0.48	1.92	MRDLG = 4	MRDL = 4	Water additive used to control microbes	

WATER CHARACTERISTICS SUBSTANCES

Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.

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Substance (units) Sample Date		Your Water	Range	Secondary MCL				
Manganese (ppm)	Feb 2013	0.071	N/A	0.05				
pH (s.u.)	Feb 2013	7.0	N/A	6.5 to 8.5				
Sodium (ppm)	Feb 2013	22.5	N/A	N/A				

UNREGULATED INORGANIC SUBSTANCES								
Substance (units)	Sample Date	Your Range			Secondary			
Substance (units)	Sample Date	Water	Low	MCL				
Sulfate (ppm)	Feb 2013	28.3	ND	28.3	250 mg/L			

†LEAD & COPPER

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 Cape Fear Public Utility Authority 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."

CFPUA Water Quality Improvement Efforts Being Phased In

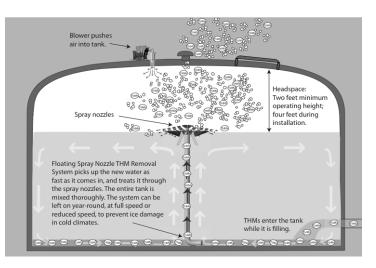
The EPA Stage 2 disinfection byproducts rule, with locational maximums for TTHM (80 μ g/L) and HAA (60 μ g/L), has resulted in compliance pressure for many municipalities and other water providers.

Cape Fear Public Utility Authority continues to seek ways to improve the water quality that our customers receive. It is our mission to not just meet the requirements of the state and federal regulations, but excel to surpass those requirements and deliver the best water possible to our customers. CFPUA has developed a phased approach to meet the challenges of the Stage 2 EPA Disinfection By-Product Regulations with new equipment being purchased and installed in several tanks.

During Phase One of the project, mixers and aeration equipment will be installed in the two 1.5 MG elevated tanks at Dawson Street and S. 17th Street. This equipment is designed to keep the water mixed to help eliminate thermal stratification. A floating aerator will assist with removal of disinfection by-products. This portion of the project is expected to be completed late this summer.

Phase Two will then begin (later summer) at which time mixers and aeration equipment will be installed in the 4.0 MG storage tank located at the Sweeney Water Plant. This equipment will also combine mixing of the water and spray aeration to assist with removing disinfection by-products. This project is expected to be completed through the winter months and ready for use in the spring of 2016.





Floating spray nozzle/THM removal system



Questions? Information?

CFPUA

235 Government Center Dr. Wilmington, NC 28403 (910) 332-6550 web-site: www.cfpua.org e-mail: communications@cfpua.org



Keep up with the latest Authority news including meeting notices,

road closure information, and scheduled & emergency work that affects our service area. Follow us on Twitter @CFPUA or friend us on Facebook (search Cape Fear Public Utility Authority).

If you have any questions or concerns about this report or the quality of your drinking water, please contact CFPUA's Water Treatment Division at (910) 332-6739. We want our valued customers to be informed about their water utility. If you want to learn more, consider attending an Authority Board Meeting. The CFPUA Board meets on the 2nd Wednesday of each month at 9:00 a.m. in Room 601 of the New Hanover County Government Center.

Pass it on...

Businesses and landlords are encouraged to share this information with their tenants and customers. Paper copies can be obtained by calling (910) 332-6739 or (910) 332-6550 during regular business hours. This report is available online at: www.cfpua.org/2014 WQReport.

Thank you for helping us provide this information to all those who use and depend on our water.



This report is printed using recycled paper and soy ink.







Helpful CFPUA phone numbers...

Report Water/Sewer Emergencies (24-hour)	332-6565
Customer Service - Billing Information, New Connections, System Shutoff	332-6550
Water Treatment (Sweeney Water Treatment Plant)	332-6739
(Nano-filtration Water Treatment Plant)	332-6739
Human Resources	332-6570
Board Information	332-6543
Communications	332-6704

CFPUA's New Portable Water Station

Since Cape Fear Public Utility Authority opened for business in 2008, it has received - and fulfilled - numerous requests for water donations to be used at a variety of community and charity events. In the past, we provided cases of bottled "Cape Fear Clear", water from our award-winning Sweeney Water Treatment Plant.

Due to the environmental impact plastic bottles cause, CFPUA has replaced the bottled Sweeney water with a new, portable water station that provides cold, refreshing water to community events. We can now serve even more people by bringing our portable water station to local fairs,



races, tournaments, charity functions and other events where drinking water is wanted. The water station can serve up to six people at a time and, with just one step up, kids can quench their thirst too. The water station is free to use and is delivered, set up and manned by Authority staff. The only requirement is that the event must be within CFPUA's service area and near one of our fire hydrants.

The water provided through the portable water station is the same water that comes out of your taps at home. Depending on the location of the event, the water will come from one of our two state-of-the-art facilities: the Sweeney Water Treatment Plant or Nanofiltration Plant. For the last six years running, CFPUA's water has received awards for it's high quality.

Interested in reserving the free portable water station for your next event? Complete and submit an application by going to our website at www.cfpua.org and clicking on the CFPUA Water Station link on our main page. Requests are processed on a first come, first served basis. For more information or to request an application send an e-mail to communications@cfpua.org . Enter CFPUA Water Station in the subject line.

Water Plant Tours Available

Have you ever wondered where your water comes from or how it gets to the tap? Schedule a tour of the Sweeney Water Treatment Plant or Nanofiltration (Groundwater) Plant for your school group, boy/girl scout troop or other organization - we'll take you on a behind-the-scenes guided tour through the actual treatment process where you'll discover how your drinking water is collected, cleaned, and distributed.

For more information about touring our water treatment facilities contact Jacqueline Valade at (910) 332-6579 or send an email to water_resources@cfpua.org. Enter "WT tour request" in the subject line.

Source Water Assessment Program

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 Contamination 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 complete SWAP Assessment report for the Cape Fear Public Utility Authority may be viewed at: http:// www.ncwater.org/pws/swap

Please 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 water quality report was prepared. To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program - Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email request to: swap@ncdenr.gov. Please indicate your system name, PWSID, 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.

Source Name	Source Status	System Name	Susceptibility Rating*	SWAP Report Date
NHC 421 Well #3	Active	04-65-191	Unknown	June 2014
NHC 421 Well #4	Active	04-65-191	Higher	June 2014
Monterey Heights Well #1	Active	04-65-137	Higher	June 2014
Monterey Heights Well #2	Active	04-65-137	Moderate	June 2014
Monterey Heights Well #3	Active	04-65-137	Higher	June 2014
Monterey Heights/Lord's Creek Well #4	Active	04-65-137	Lower	June 2014
Well A - Castle Hayne	Active	04-65-232	Higher	June 2014
Well A - Pee Dee	Active	04-65-232	Higher	June 2014
Well B - Castle Hayne	Active	04-65-232	Higher	June 2014
Well B - Pee Dee	Active	04-65-232	Higher	June 2014
Well C - Castle Hayne	Active	04-65-232	Higher	June 2014
Well C - Pee Dee	Active	04-65-232	Higher	June 2014
Well F - Castle Hayne	Active	04-65-232	Lower	June 2014
Well F - Pee Dee	Active	04-65-232	Lower	June 2014
Well G - Castle Hayne	Active	04-65-232	Moderate	June 2014
Well G - Pee Dee	Active	04-65-232	Moderate	June 2014
Well H - Castle Hayne	Active	04-65-232	Moderate	June 2014
Well H - Pee Dee	Active	04-65-232	Moderate	June 2014
Well I - Castle Hayne	Active	04-65-232	Moderate	June 2014
Well I - Pee Dee	Active	04-65-232	Moderate	June 2014
Well J - Castle Hayne	Active	04-65-232	Moderate	June 2014
Well J - Pee Dee	Active	04-65-232	Moderate	June 2014
Well K - Castle Hayne	Active	04-65-232	Higher	June 2014
Well K - Pee Dee	Active	04-65-232	Higher	June 2014
Well L - Castle Hayne	Active	04-65-232	Moderate	June 2014
Well L - Pee Dee	Active	04-65-232	Higher	June 2014
Well #28 M	Active	04-65-232	Higher	June 2014
Well #29 N	Active	04-65-232	Higher	June 2014
Well # 30 O	Active	04-65-232	Higher	June 2014
Well P - Pee Dee	Active	04-65-232	Moderate	June 2014
Well Q - Pee Dee	Active	04-65-232	Higher	June 2014
	Emergency	04-65-232	Moderate	June 2014

Source Water Assessment Program cont'd.

Source Name	Source Status	System Name	Susceptibility Rating*	SWAP Report Date
Well #15 Elkmont	Emergency	04-65-232	Moderate	June 2014
Well #20 Old Marsh Oaks #2	Emergency	04-65-232	Higher	June 2014
Cape Fear River Kings Bluff	Active	04-65-010	Moderate	June 2014
Lower Cape Fear WSA	Active	04-65-010	Moderate	June 2014
Masonboro Forest	Emergency	04-65-010	Lower	June 2014
Sea Pines	Emergency	04-65-010	Moderate	June 2014
Sea Spray Rd.	Emergency	04-65-010	Higher	June 2014

Susceptibility of Sources to Potential Sources (PCSs)

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the systems' potential to become contaminated by PCS's in the assessment area.

CFPUA to Expand Water & Sewer Service Along U.S. Hwy. 421 Corridor

The Board of the Cape Fear Public Utility Authority approved a construction contract for two projects that will first connect Flemington-area residents (System 04-65-191) to CFPUA's main drinking water system (04-65-010) then provide the ability for the entire U.S. 421 Corridor to connect to CFPUA's main water and sewer systems. The water line portion of the construction contract is based upon an agreement reached between CFPUA and Duke Energy in October of 2013, while the sewer project is based upon an agreement among CFPUA, New Hanover County and the City of Wilmington.

CFPUA's master plan shows a larger water line serving the U.S. 421 Corridor and opening the area to greater economic development. Upon review of the water line project, CFPUA determined the construction of sewer lines at the same time would be cost-effective and achieve master plan objectives. As a result, agreements were reached with New Hanover County and the City of Wilmington to construct two 8-inch sewer lines underneath the Cape Fear River. CFPUA and New Hanover County will split the sewer project's \$1.2 million cost, while the City of Wilmington will provide the use of essential city land for construction and maintenance of the lines.

"When this project began in 2013, CFPUA's goal was to ensure that people who live and work in the Flemington area continue receiving high-quality drinking water. Our agreement with Duke Energy achieved that goal," said Jim Flechtner, CFPUA Executive Director. "At the same time, we have been presented with an ideal opportunity to accelerate a portion of our wastewater master plan and aid New Hanover County and the City of Wilmington with their important economic objectives."

"There is nothing more fundamental than the ability for a person to know — without question — that their drinking water is safe. The new water pipeline provides the Flemington community with a resounding and unwavering answer to their concerns," said Pat Kusek, CFPUA Board Chairman. "Water and sewer services also provide the backbone for economic development in a community. We are proud in the knowledge that the steps taken today will help the city and county open a new gateway for investment in our region."

Wellhead Protection

Wellhead protection is simply protection of all or part of the area surrounding a well from which the well's ground water is drawn. Protecting your water from becoming contaminated is a wise investment in public health and your community's future. The 1986 amendments to the Safe Drinking Water Act established the wellhead protection program and requires each state to develop comprehensive programs to protect public water supply wells from contaminants that could be harmful to human health. Ground-water contamination can originate on the surface of the ground, in the ground above the water table, or in the ground below the water table. Where a contaminant originates is a factor that can affect its actual impact on ground-water quality. Because ground water is hidden from view, contamination can go undetected for years until the supply is tapped for use.

A wellhead protection program is a pollution prevention and management program used to protect underground sources of drinking water. These programs were intended by Congress to be a key part of a national groundwater protection strategy to prevent contamination of groundwaters that are used as public drinking water supplies. In North Carolina, development of a local Wellhead Protection Plan is not mandatory but, rather, is viewed as a valuable supplement to existing state groundwater protection programs. North Carolina's wellhead protection program is intended for city and county governments and water supply operators who wish to provide added protection to their local groundwater supplies. The Wellhead Protection Plan, once implemented, reduces (but does not eliminate) the susceptibility of wells to contaminants.

CFPUA has a state approved wellhead protection program. Our groundwater system, as well as our [main] surface water system, is continuously monitored and tested to ensure our customers receive the best quality of water possible. To learn more about wellhead protection and North Carolina's drinking water standards log onto www.ncwater.org.