

2016 Annual Drinking Water Quality Report

Seymour Johnson Air Force Base

Public Water Supply (PWS) ID: 04-96-055

We are pleased to present to you this year's Annual Drinking Water Quality Report for Seymour Johnson AFB (SJAFB), our water is safe to drink. This report is a snapshot of last year's water quality. Included are details about your source of water, 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 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. **We want our valued customers to be informed about their water utility.**

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. Seymour Johnson's Civil Engineering Squadron 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>.

As water travels over the land or underground, it can 'pick up substance or contaminants such as microbes, inorganic and organic chemicals, herbicides and pesticides, and radioactive substances. 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 1-800-426-4791.

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.

Our Sources of Drinking Water

Seymour Johnson AFB purchases its water from the City of Goldsboro (PWS ID: 04-96-010). The City of Goldsboro's water source is a surface supply from the Neuse River. The City's alternate water supply is a surface supply from the Little River, which was not used in 2016.

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 Seymour Johnson AFB 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)

Source Name	Susceptibility Rating	SWAP Report Date
Neuse River	Higher	July 16, 2015
Little River	Higher	June 17, 2014

The complete SWAP Assessment report for Seymour Johnson AFB 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.

Violations to Our Drinking Water System

We did not receive any violations during the 2016 reporting period.

Monitoring of Our Drinking Water

We continually monitor our drinking water for contaminants. Our water is safe to drink. The Bioenvironmental Engineering Flight (BEF) is responsible for monitoring drinking water quality on Seymour Johnson Air Force Base. Since the base purchases its drinking water, the city of Goldsboro fulfills most of the EPA mandated monitoring requirements. In addition to the monitoring that is completed by the city of Goldsboro, BEF personnel sample for bacteriological contaminants, disinfectant and disinfection byproduct contaminants, lead, copper, and asbestos. BEF accomplishes this additional monitoring because each of these contaminants may be affected by the characteristics of the distribution system on the installation. The contaminants monitored only by the city are affected primarily by the quality of the source water and do not change as the water moves from the city’s distribution system to the base’s distribution system.

The tables below list all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate the water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2016.**

Definitions of Key Terms

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

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

Parts per trillion (ppt) or Nanograms per liter (ng/L) - One part per trillion corresponds to one second in 32,000 years.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

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.

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 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 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.

Variations and Exemptions - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Extra note: 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.

Microbiological Contaminants in the Distribution System - For systems that collect *less than 40* samples per month

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	0	0	0	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (presence or absence)	N	0	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 <i>E. coli</i> positive)	Human and animal fecal waste

Turbidity*

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	0.22 Maximum	Less than 95% of monthly turbidity measurements are \leq 0.3 NTU	Soil runoff
		100% under 0.3		

* 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. Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	May 2016	N	0.55	N/A		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

* Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

Inorganic Contaminants (Non-Detected)

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Arsenic (ppb)	May 2016	N	Non Detect	N/A		0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes

* Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

Nitrate/Nitrite Contaminants

Contaminant (units)	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
Nitrate (as Nitrogen) (ppm)	N	0.50	ND – 0.74		10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

* Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

The City of Goldsboro also monitors for unregulated contaminants. Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Unregulated Inorganic Contaminants

Contaminant (units)	Sample Date	Your Water	Range		Secondary MCL
			Low	High	
Sulfate (ppm)	May 2016	41.1	N/A		250

* Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

Synthetic Organic Chemical (SOC) Contaminants Including Pesticides and Herbicides

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Dalapon (ppb)	May, Aug. 2016	N	0.0006	ND – 0.0011		200	200	Runoff from herbicide used on rights of way

* Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	Sep 2016	0.100	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	Sep 2016	ND	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

Total Organic Carbon (TOC)

Contaminant (units)	Sample Date	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	TT	Likely Source of Contamination	Compliance Method (Step 1 or ACC#_)
Total Organic Carbon (removal ratio) (TOC)-TREATED	Monthly 2016	N	1.43	1.24 – 1.55	N/A	TT	Naturally present in the environment	Step #1

* Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

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

Disinfectants and Disinfection Byproducts Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water RAA (Stage 1)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	N	52	49-56	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	N	45	37-55	N/A	60	By-product of drinking water disinfection
Chloramines (ppm)	N	1.94	0.04-2.95	MRDLG = 4	MRDL = 4	Chlorite (ppm)

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.*

Although PFOS/PFOA are unregulated and commonly used, the Air Force is taking aggressive measures to reduce the risk of mission-related PFOS/PFOA contamination to installation and supporting communities' drinking water sources. PFOS and PFOA are synthetic fluorinated organic compounds used in many industrial and consumer products, and in foam used by commercial industries and the armed services to extinguish petroleum-based fires. These chemicals have been used for many years to make products that resist heat, stains, grease and water. In 1970, the Air Force began using aqueous film forming foam (AFFF), which contains PFOS and PFOA, to extinguish petroleum fires. AFFF is the most efficient extinguishing method for petroleum-based fires and is widely used across the firefighting industry, to include all commercial airports, to protect people and property.

PFOS/PFOA

Contaminant (units)	Sample Date	Your Water	EPA Health Advisory*	Likely Source of Contamination
PFOS (ppt)	August 2016	9.6	70	Firefighting at airfields- release of aqueous film forming foam
PFOA (ppt)	August 2016	4.6	70	Firefighting at airfields- release of aqueous film forming foam

* EPA established lifetime health advisory levels of 70 part per trillion for PFOS and PFOA in drinking water.

Secondary Contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants 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	Your Water	Range Low/High	SMCL
Manganese (ppm)	May 2016	0.012	N/A	0.050
Sodium (ppm)	May 2016	35.0	N/A	N/A
pH	May 2016	8.5	N/A	6.5 to 8.5

* Table above presents the results of monitoring performed by the City of Goldsboro for the reporting period of 2016.

Public Involvement

Please refer any questions regarding this report to Capt Selena Rodts, Chief of the 4th Fighter Wing Public Affairs office, at (919) 722-0027.