

# Special Announcement



National Aeronautics and  
Space Administration

Goddard Space Flight Center  
Wallops Flight Facility  
Wallops Island, Virginia 23337

No. 12-05

Date: June 29, 2012

**Subject:** Annual Drinking Water Quality Report

The Wallops Flight Facility (WFF) operates public water systems regulated by the U.S. Environmental Protection Agency (EPA) and the Virginia Department of Health (VDH). These regulatory agencies require WFF to adhere to strict standards and to distribute a drinking water quality report, also known as a Consumer Confidence Report (CCR), to all customers.

The CCR is an annual report summarizing the quality of water that is provided to WFF employees, tenants, and partners. It is written in an EPA required format and contains information including the levels of any contaminants detected in laboratory tests, explanation of any violations that occurred during the previous year, health related guidance, and sources to contact for additional information.

The top priority is to provide a safe and dependable supply of drinking water to all WFF employees, tenants, and partners. Annual testing for contaminants is conducted in pre-filtration locations. In calendar year (CY) 2011, laboratory results showed that elevated Total Trihalomethanes (by-products of chlorination) may be present in the pre-filter water in some WFF buildings. Prior to May 2009, there were occasional elevated levels of lead and copper found in drinking water at some buildings. WFF Facilities Management Branch began adding zinc-orthophosphate to the water system to prevent leaching of metals from pipes into the drinking water. Additionally, activated carbon filters are installed and maintained on all water fountains and kitchen sinks. A filter maintenance program is in operation to ensure the filters are effective. After filtration, WFF's water has proven to be of the same quality as bottled water.

As a WFF employee and customer served by the water system, please take a few minutes to read the enclosed CY 2012 CCR. For water filter replacement or service in NASA controlled buildings you can contact WICC Customer Service at extension 4357 (HELP). This report provides valuable information about the water you drink at WFF. If you have any questions or concerns regarding this announcement, please contact Mr. Owen Hooks of the WFF Environmental Office, at (757) 824-1941.

A handwritten signature in black ink, appearing to read "C. Massey".

Caroline R. Massey  
Assistant Director of Management Operations

Enclosure

Distribution: 100 200 400 500 600 700 800 Contractors



**GODDARD SPACE FLIGHT CENTER  
WALLOPS FLIGHT FACILITY  
MAIN BASE WATERWORKS**

***July 2012 Annual Drinking Water Quality Report (2011 data)***

This Annual Drinking Water Quality Report or "Consumer Confidence Report" covering Calendar Year (CY) 2011 is designed to inform you about the drinking water quality on Wallops Flight Facility's (WFF) Main Base. Our goal is to provide a safe, dependable drinking water supply. The drinking water must meet Federal and State requirements as administered by the U.S. Environmental Protection Agency (EPA) and the Virginia Department of Health (VDH).

If you have questions about this report or wish to obtain additional information about any aspect of WFF drinking water, please contact: **Owen Hooks of the WFF Environmental Office at (757) 824-1941 or Richard.O.Hooks@nasa.gov**

**General Information**

As water travels over the ground surface or through the soil, it dissolves naturally occurring minerals. Water can also pick up substances resulting from the presence of animal or human activities. All drinking water, including bottled drinking water, may reasonably be expected to contain very small amounts of these substances. The presence of these substances does not necessarily indicate that the water poses a health risk.

The sources of all drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Contaminants that may be present in source water include:

- (1) Microbial contaminants, such as viruses or bacteria, which may come from sewage treatment plants, septic tanks, agricultural livestock, and wildlife.
- (2) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (3) Pesticides and herbicides, which may come from a variety of sources including agriculture, urban storm water runoff, and residential uses.
- (4) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also from fueling stations, urban storm water runoff, and failing septic systems.

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 of infections. These individuals should seek advice from their health care provider about drinking water.

The EPA and the Centers for Disease Control and Prevention (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 at (800)-426-4791**.

In order to ensure that tap water is safe to drink, EPA and VDH prescribe regulations that limit the amount of certain contaminants allowed in water provided by public water systems. At WFF, the water is monitored for contaminants according to these regulations. The U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

**Is WFF water treated?**

Groundwater sources are not required to be chlorinated unless:

- (1) There is a potential source of contamination,
- (2) There is a failure to meet the bacteriological quality standards, or
- (3) The groundwater supply is under the direct influence of surface water.

Although not a requirement, WFF chooses to treat its groundwater supply by chlorination. Since WFF chooses to treat by chlorination, the VDH recommends that we maintain a minimum residual chlorine level between 0.1-0.5 mg/L throughout the distribution system at all times.

### **Sources of WFF Drinking Water**

Drinking water at WFF is drawn from five groundwater wells on the Main Base, as described and shown in the map below:

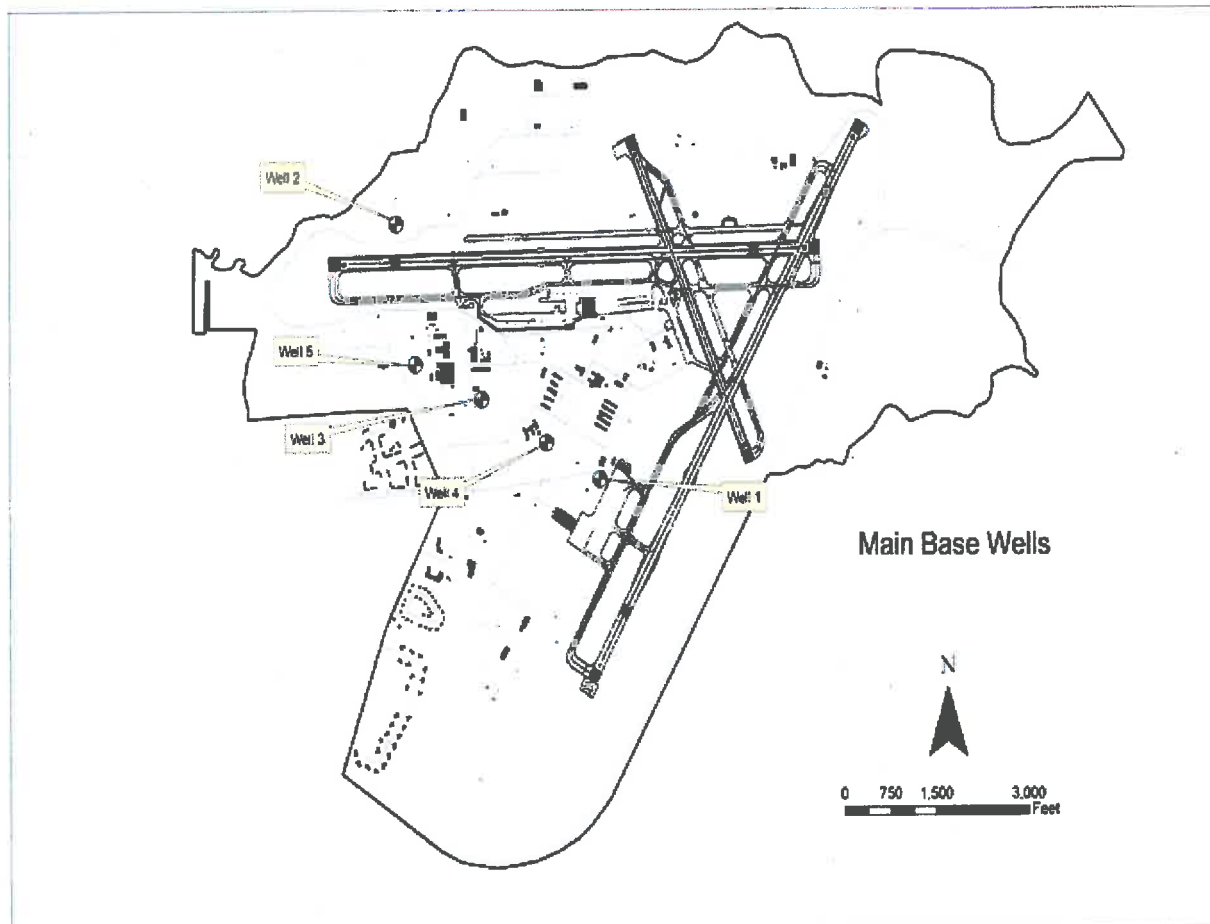
**Well #1** – Between Buildings E134 and N159; this well is 260 feet deep.

**Well #2** – Between Building D12 and Runway 10-28; this well is 150 feet deep.

**Well #3** – Between Building F157 and Storage Building; this well is 253 feet deep.

**Well #4** – Between Building F160 and Tennis Court; this well is 265 feet deep.

**Well #5** – Between Buildings F10 and H-100; this well is 260 feet deep.



### **Drinking Water Monitoring**

WFF drinking water is tested to ensure it is safe, and is routinely monitored in accordance with Federal and State regulations.

The table on the following page lists only those contaminants that have had some measurable level of detection within the past 5 years. Many other contaminants have been tested for and were not present, or were below the laboratory equipment detection limits. [Contaminants below detection limits are not normally of concern.]

State regulators allow WFF to monitor several contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data included in the table below is more than one year old, but is still considered valid for these contaminants. The table includes monitoring results from December 2007 through December 2011.

## Water Quality Data Summary

Contaminants Regulated (Units)	Goal (MCLG)	Max. Allowed (MCL)	Detected Level (DL)	Range of Levels Tested	Violation	Date of Sample	Sources of Substance
Chlorine, Cl (ppm)	4 MRDL	4 MRDLG	0.36	ND - 1.10	No	CY 2011	Water additive to control microbes
TTHM <sup>1</sup> (ppb) Running Annual Average	0	80	86	58-104	Yes	2011	By-product of drinking water chlorination
HAA5 <sup>2</sup> (ppb) Running Annual Average	0	60	26	9-31	No	2011	By-product of drinking water chlorination
Copper, Cu <sup>3</sup> (ppm)	1.3	AL=1.3	0.0543	ND - 0.168	No	08/17/11	Corrosion of plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead, Pb <sup>4</sup> (ppb)	0	AL=15	2	ND - 4.04	No	08/17/11	Corrosion of plumbing systems; Erosion of natural deposits

### **Table Footnotes**

<sup>1</sup> The Detected Level represents the running quarterly average. The running average was above the MCL of 80 ppb.

<sup>2</sup> The Detected Level represents the running quarterly average. The running average was below the MCL of 60 ppb.

<sup>3</sup> The Detected Level represents the 90th percentile value. None of the 10 samples tested for copper exceeded the current Action Level of 1.3 ppm.

<sup>4</sup> The Detected Level represents the 90th percentile value. None of the 10 samples tested for lead exceeded the current Action Level of 15 ppb.

### **How to Read This Table**

**AL (Action Level)** - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must use. At WFF, this could include concentrations of lead or copper.

**DL (Detected Level)** - The concentration observed in our water during that round of testing.

**HAA5 (Haloacetic Acids)** - The sum of the five of nine haloacetic acids that are regulated by EPA. Haloacetic Acids form in drinking water after the addition of chlorine.

**MCL (Maximum Contaminant Level)** - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs (see definition below) as feasible by using the best available treatment technology.

**MCLG (Maximum Contaminant Level Goal)** - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety set by EPA.

**MRDL (Maximum Residual Disinfectant Level)** - The highest level of a disinfectant allowed in the drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal)** - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of use of disinfectants to control microbes.

**ND (Non-Detect)** - The contaminant concentration was below the detection limit.

**ppb (parts per billion)** - Concentration in parts per billion, or micrograms per liter (ug/L); this is equivalent to a single penny in ten million dollars.

**ppm (parts per million)** - Concentration in parts per million, or milligrams per liter (mg/L); this is equivalent to a single penny in ten thousand dollars.

**Source of Substance** - Explains the typical natural or manmade origins of the contaminant.

**SMCL (Secondary Maximum Contaminant Levels)** - Reasonable goals for drinking water quality which are recommendations. Exceeding SMCLs may adversely affect odor or appearance, but have no known risk to human health.

**TTHM (Total Trihalomethanes)** - The sum of the four constituent compounds that form in drinking water by reactions of chlorine with natural organic material.

**Additional Health Information:**

Certain contaminants (such as Arsenic, *Cryptosporidium*, Lead, Nitrate, Radon, TTHM), if present in your drinking water, may be of special concern to consumers.

**Lead (Pb):**

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. WFF is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing. Water standing in metal pipes for several hours presents an increased risk of metals leaching into drinking water.

If elevated levels of lead are present in drinking water, they can cause serious health risks, especially for pregnant women and young children. You can minimize these risks by flushing your tap until the water becomes cold and reaches a steady temperature before using it for drinking or cooking. If you are concerned about lead in your water, you should 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://water.epa.gov/drink/info/lead/index.cfm>

Since August 2005, the WFF waterworks has been adding small amounts of zinc orthophosphate (ZNOP) to the water distribution system. Zinc orthophosphate works by forming a protective lining inside pipes and plumbing fixtures to prevent metals such as lead and copper from leaching into drinking water. ZNOP is VDH approved, recognized as safe by the Food and Drug Administration, and is certified for use in drinking water treatment by the National Sanitation Foundation. Additional information regarding lead and copper in WFF's drinking water has been distributed in notices to all employees and the documents are also posted in all WFF buildings.

**Note: Elevated levels of lead have not been detected in WFF drinking water since May 2009.**

The past five semi-annual sample results have not exceeded the lead or copper Action Levels. NASA WFF continues to issue notices to inform all consumers that some taps have had a history of elevated lead or copper levels (prior to May 2009). NASA WFF has placed filters on drinking water fountains and kitchen faucets to remove or minimize metals, including lead and copper.

**Total Trihalomethanes (TTHM):**

TTHM are by-products of drinking water chlorination. WFF has exceeded the primary MCL and corrective actions are now in place. TTHM dissipate rapidly in open containers exposed to air. However, it should be noted that some people who drink water containing elevated TTHM over many years have a slightly increased risk of experiencing problems with their livers, kidneys, or central nervous systems, and may have an increased risk for certain cancers.

To receive additional copies contact:

**Owen Hooks of the WFF Environmental Office at (757) 824-1941 or [Richard.O.Hooks@nasa.gov](mailto:Richard.O.Hooks@nasa.gov)**

*Additional information on how you can help conserve water and protect your water supply can be found at the EPA's website: <http://www.epa.gov/owm/water-efficiency/index.htm>*

This Drinking Water Quality Report was prepared by:

