

Langley Air Force Base Annual Water Quality Report For Calendar Year 2023

ABOUT THIS REPORT

Langley Air Force Base's goal is to provide you with a safe and dependable supply of drinking water. This is our annual Consumer Confidence Report on the drinking water delivered to Langley AFB. This report is required by the Safe Drinking Water Act (SDWA) and provides information such as to where your water comes from and information on potential contaminants. It is reviewed and approved by the Virginia Department of Health (VDH), Office of Drinking Water in Norfolk. The quality of your drinking water must meet state and federal requirements administered by the VDH. The information contained in this report validates all requirements were met and the water is safe for consumption.

This report is written, prepared and distributed by 633d Operational Medical Readiness Squadron, Bioenvironmental Engineering (BE) as required by the Safe Drinking Water Act. If you have questions about this report, please contact Bioenvironmental Engineering Office by phone at (757) 764-7760 DSN: 574-7760 and/or by email at usaf.jble.633-mdg.list.633-omrs-sgxb-personnel@health.mil.

NEWPORT NEWS WATERWORKS (NNWW)

Newport News Waterworks serves as a regional water provider for five jurisdictions: Hampton, Newport News, Poquoson, York County and part of James City County. NNWW is committed to providing a reliable supply of high-quality drinking water to our customers. Drinking water is treated and tested using state-of-the-art equipment and advanced procedures, and it meets or exceeds state and federal standards. Bottom line: **The quality of your drinking water is excellent.**

WATER SOURCE

The sole public water system for supplying drinking water to Langley AFB is NNWW. The primary source of your drinking water is surface water from the Diascund Creek Reservoir supplemented by the Chickahominy River, as dictated by weather patterns. Water is pumped from Diascund Creek Reservoir and/or the Chickahominy river above Walkers Dam and transferred through pipes to our reservoirs for storage. NNWW owns and operates five reservoirs that store and supply water to two treatment plants. **Ground water from Langley is not part of this process and is never mixed with the drinking water.**

HOW THE WATER IS TREATED

Water is treated at NNWW treatment plants where it passes through screens to remove large debris. Then aluminum sulfate (alum) and polymer are added. These chemicals cause tiny particles in the water to cling together (coagulation), making the particles easier to remove. After the water is clarified, ozone (disinfection) is added to kill microorganisms such as bacteria and viruses. The water is then sent through filters to remove any remaining particles (filtration). Lime is added to adjust the pH, fluoride is added to prevent tooth decay, and zinc orthophosphate is added to control corrosion inside the pipe system. Finally, chloramines are added (secondary disinfection) to maintain disinfection as it travels through the pipe system to your home or office.

The brackish groundwater is pumped to NNWW's desalination plant located in Lee Hall. Using a process called reverse osmosis, water is forced by high pressure through membranes that can remove the salt and other contaminants to produce very high-quality water. The water is blended with treated surface water and sent out to its customers. In

order to ensure that the tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug

Administration (FDA) prescribe regulations establishing limits for contaminants in bottled water and must provide the same level of protection for the consumers as available tap water.

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 EPA's Safe Drinking Water Hotline (1-800-426-4791).

NNWW updated its Source Water Assessment in 2020. Information on the NNWW source water assessment is available by calling NNWW Customer Service at (757) 926-1000.

HOW WE TEST YOUR WATER: NNWW

To ensure that tap water is safe to drink, EPA regulations limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish the limits for contaminants in bottled water, which must provide the same protection for public health. The water quality information listed here is based upon tests conducted by NNWW. Samples of treated water were taken at regular intervals from specific locations (the treatment plants, residences, and businesses) across the Waterworks service area.

Tables with the results of testing for Regulated and Unregulated substances conducted by NNWW can be found on pages 3, 4, and 5. The tables contain the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, and whether Waterworks meets state and federal standards. For help understanding the tables, please see the key terms on the next page and the footnotes at the bottom of the tables. An expanded version of the tables in this report (listing additional test results) can be found on the Waterworks website at www.nnva.gov/waterqualityreport.

HOW WE TEST YOUR WATER ON LANGLEY AFB

Bioenvironmental Engineering collects treated water samples in accordance with EPA SDWA, VDH, Office of Drinking Water, and Air Force Instruction 48-144, *Drinking Water Surveillance Program*. Samples of treated water were collected at regular intervals from specific locations (i.e., water system entry points, pump stations) that have been established by VDH, Office of Drinking Water. Tables with the results of testing for Regulated substances conducted by BE for Langley AFB can be found on page 6. The tables contain the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, and whether Langley AFB Water System met state and federal standards. For help understanding the tables, please see the key terms on the next page and the footnotes at the bottom of the table.

PLEASE NOTE:

All data that has been supplied throughout (e.g., sampling dates, results, and locations) has been reviewed and approved by the Virginia Department of Health, Office of Drinking Water for accuracy. Not all sample types are recurring or have an annual sampling requirement.

Your drinking water is continually monitored for contaminants. Langley AFB drinking water is SAFE.

INFORMATION

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 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, 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. They can also come from gas stations, urban storm water runoff, and septic systems.

★ **RADIOACTIVE CONTAMINANTS**, which can be naturally occurring or be the result of oil and gas production and mining activities.

IMPORTANT INFORMATION FOR PEOPLE WITH HEALTH CONCERNS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons 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 drinking water contaminants.

These people should seek advice about drinking water from their health care providers. EPA and Center for Disease Control (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 (1-800-426-4791).

CHLORAMINES

A combination of chlorine and ammonia are now used as a secondary disinfectant. **Reminder** - kidney dialysis centers are advised of the dangers of the chloramine treatment. Also, tropical fish owners need to de-chlorinate the water before use in fish habitats or tanks.

LEAD

NNWW 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 two minutes before using water for drinking or cooking. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily comes from materials and components associated with service lines and home plumbing.

Waterworks recommends that you prepare baby formula with cold water. If you are concerned about elevated lead levels in your home's water, you may have your water tested. Additional information to include steps you can take to minimize exposure to lead is available from the EPA's Safe Drinking Water Hotline at (1-800-426-4791) or visit them on the web at <http://www.epa.gov/safewater/lead>.

KEY TERMS

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

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.

MICROGRAM PER LITER (ug/L) - Concentrations of chemicals in water (units of the mass of chemical) per volume of water (liter = L)

MINIMUM REPORTING LEVEL (MRL) - Estimate of lowest concentration of a compound that laboratories would report as a detection.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. It does not reflect the benefits of adding chemical for the control of water borne microbial contaminants.

NEPHELOMETRIC TURBIDITY UNIT (NTU) - A measure of water clarity. Turbidity greater than five (5) NTUs is just noticeable to the average person.

NON-DETECTS (ND) - Does not equate to zero but refers to an amount below analytical reporting limits.

PARTS PER MILLION (PPM) - Parts per million relates to one drop in one million drops of water or about one cup of water in a swimming pool.

PARTS PER BILLION (PPB) - Parts per billion relates to one drop in one billion drops of water or about one drop of water in a swimming pool.

MICROGRAMS PER LITER (ug/L) - Equivalent to PPB

PICOCURIES PER LITER (PCI/L) - Picocuries per liter is a measure of the radioactivity in water.

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

NEWPORT NEWS WATERWORKS

(Samples collected by Newport News Public Utilities to ensure water quality)

WATER QUALITY TESTING RESULTS REGULATED HEALTH RISK CONTAMINANTS							
<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Units</u>	<u>Highest Level Found</u>	<u>Range</u>	<u>Meets State & Federal Standards</u>	<u>Likely Source</u>
INORGANICS							
Copper	0	AL = 1.3	ppm	0.101 ¹	0.007 - 0.311	Yes	Corrosion of household plumbing
Lead	0	AL = 15	ppb	<1.0 ¹	<1 - 9.86	Yes	Corrosion of household plumbing
Fluoride	4	4	ppm	0.79	0.74 - 0.79	Yes	Added to promote strong teeth
Barium	2	2	ppm	0.023	0.018 - 0.023	Yes	Erosion of natural deposits
Nitrate	10	10	ppm	0.071	0.048 - 0.071	Yes	Erosion of natural deposits
Nitrite	1	1	ppm	0.002	<0.001 - 0.002	Yes	Erosion of natural deposits
DISINFECTION BY-PRODUCTS AND PRECURSORS							
Total Trihalomethanes (TTHM)	0	80	ppb	14 ²	2 - 25	Yes	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	0	60	ppb	19 ²	4 - 33	Yes	By-product of drinking water chlorination
Total Organic Carbon (TOC) Removal	None	TT	N/A	1.15 ³	0.96 - 1.74	Yes	Naturally present in the environment.
MICROBIOLOGICAL & RADIOLOGICAL							
Total Coliform	0	Presence in >5% of samples	N/A	2 positive samples in 2023. 2262 samples collected.	N/A	Yes	Naturally present in the environment
Total Chlorine (Chloramines)	4	MRDL= 4	ppm	3.0 ⁵	<0.02 - 5.5	Yes	Water additive (disinfectant) used to control microbes
Turbidity	None	TT	NTU	0.219 ⁴	0.018 - 0.219	Yes	Soil runoff
Radium- 226 & 228	0	5	pCi/L	0.6	0.2 - 0.6	Yes	Erosion of natural deposits
Beta Emitters	0	4	pCi/L	1.8	1.2 - 1.8	Yes	Decay of natural & man-made deposits
<p>Footnotes: Except for radiological testing, which was completed in 2022, the results reported in the table above are for samples taken in 2022-2023. Samples taken in 2022 are part of required four-quarter or annual running averages.</p> <p>(1) At least 90% of the samples were at or below this level. None of the individual samples exceeded the Action Level. Because our lead and copper levels are so low, we only have to test every three years. Lead and copper testing was completed in 2023.</p> <p>(2) The highest detected levels of TTHM and HAA5 are based on a specific location's four-quarter running average. The range numbers are the results from individual samples. The data in "Highest Result" column include samples from 2022. The range is for samples taken in 2023.</p> <p>(3) Compliance is based on a running four-quarter average. The range is the individual monthly ratio from both water treatment plants. TOC has no adverse health effects but can be a critical component in the formation of disinfection by-products. The data in the "Highest Result" column includes samples from 2022. The range is for samples taken in 2023.</p> <p>(4) Turbidity is a measure of water cloudiness. It is a good indicator of the effectiveness of our filtration system. 100% of samples were within the turbidity limit.</p> <p>(5) For Chloramines, a system-wide annual running average is used. The range numbers are the results of individual samples. The data in the "Highest Result" column includes samples from 2022. The range is for samples taken in 2023.</p>							<p>MCLs are set at very stringent levels. To experience the possible health effects described for many regulated contaminants, a person would have to drink two liters of water at the MCL level every day for a lifetime to have a one-in- a-million chance of having a possible health effect.</p>

NEWPORT NEWS WATERWORKS

(Samples collected by Newport News Public Utilities to ensure water quality)

2021 WATER QUALITY TESTING RESULTS NON-REGULATED MICROBIALS MONITORED AT THE SOURCE

<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Units</u>	<u>Highest Level Found</u>	<u>Range</u>	<u>Meets State & Federal Standards</u>	<u>Sample Date</u>	<u>Likely Source</u>
Cryptosporidium*	n/a	TT	Oocysts /L	0.05	0.00 - 0.05	Yes	2021	Human or animal fecal waste

***In the raw water—not in the treated water.**

Cryptosporidium is a parasitic microbe found in surface waters throughout the U.S. Our monitoring indicates the presence of these organisms at very low levels in our source water but not in our treated water. Current test methods approved by the EPA do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at 800-426-4791.

Please note: The EPA allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or our system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, is more than one year old.



NEWPORT NEWS WATERWORKS

(Samples collected by Newport News Public Utilities to ensure water quality)

2023 WATER QUALITY TESTING RESULTS UNREGULATED CONTAMINANTS

UNREGULATED CONTAMINANT MONITORING REGULATION-5 (UCMR5) UNREGULATED CONTAMINANTS

<u>Contaminant</u>	<u>Units</u>	<u>MRL</u>	<u>MAX Conc.</u>	<u>Range</u>	<u>Source</u>
Perfluorobutanoic acid (PFBA)	µg/L	0.0050	0.0060	<0.0050 - 0.0060	PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials that are resistant to water, grease or stains. They are also used for firefighting at airfields and in a number of industrial processes.
Perfluoropentanoic acid (PFPeA)	µg/L	0.0030	0.0050	<0.0030 - 0.0050	
Perfluorohexanoic acid (PFHxA)	µg/L	0.0030	0.0049	<0.0030 - 0.0049	
Perfluorohexanesulfonic acid (PFHxS)	µg/L	0.0030	0.0050	<0.0030 - 0.0050	
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.0040	0.0061	<0.0040 - 0.0061	

In 2023, Waterworks participated in U.S. EPA's fifth round of the Unregulated Contaminant Monitoring Rule (UCMR5). Unregulated contaminants are those that do not yet have a drinking water standard set by U. S. EPA. The purpose of monitoring for these contaminants is to help U.S. EPA decide whether they need to be regulated in the future to protect public health. The results for contaminants that were detected are shown in the table above.

NEWPORT NEWS WATERWORKS

(Samples collected by Newport News Public Utilities to ensure water quality)

2018-2019 WATER QUALITY TESTING RESULTS UNREGULATED CONTAMINANTS

UNREGULATED CONTAMINANT MONITORING REGULATION-4 (UCMR4)

This monitoring provides a basis for future regulatory actions to protect public health.

<u>Contaminant</u>	<u>MRL</u>	<u>Units</u>	<u>Average</u>	<u>Range of Test Results</u>	<u>Sample Date</u>	<u>Likely Source</u>
UCMR4 – TRACE METALS						
Manganese	0.4	µg/L	9.6	2.91-24.1	2018-2019	Naturally occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical; essential nutrient.
UCMR4 – HALOACETIC ACIDS						
Dichloroacetic Acid (DCAA)	0.2	µg/L	11.6	1.6-27.1	2018-2019	By-product of drinking water chlorination
Trichloroacetic Acid (TCAA)	0.5	µg/L	3.0	0.7-11.7		By-product of drinking water chlorination
Dibromoacetic Acid (DBAA)	0.3	µg/L	<0.3	<0.3-0.4		By-product of drinking water chlorination
Bromochloroacetic Acid (BCAA)	0.3	µg/L	2.2	0.4-3.3		By-product of drinking water chlorination
Bromodichloroacetic Acid (BDCAA)	0.5	µg/L	0.8	<0.5-2.3		By-product of drinking water chlorination
Chlorodibromoacetic Acid (CDBAA)	0.3	µg/L	<0.3	<0.3-0.7		By-product of drinking water chlorination

Please note: Not all sample types are recurring or have an annual frequency.

LANGLEY AFB DISTRIBUTION SYSTEM

(Samples collected by USAF Bioenvironmental Engineering and analyzed by state-certified lab, James R. Reed & Associates)

2021 - 2023 WATER QUALITY TESTING RESULTS REGULATED HEALTH RISK CONTAMINANTS

<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Units</u>	<u>Highest Level Found</u>	<u>Range</u>	<u>Meets State & Federal Standards</u>	<u>Sample Date</u>	<u>Likely Source</u>
INORGANICS								
Lead	0	AL = 15	ppb	<1.0 ¹	<1 - 5	Yes	2021	Corrosion of household plumbing systems; erosion of natural deposits
Copper	0	AL = 1.3	ppm	0.439 ¹	0.021 - 1.05	Yes	2021	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservative
REGULATED DISINFECTANTS								
Chloramines (Total Chlorine)	MRDLG= 4	MRDL= 4	ppm	1.16 ²	0.03 - 3.88	Yes	2023	Water additive used to control microbes
DISINFECTION BY-PRODUCTS								
TTHM	0	80	ppb	14.2 ³	5.7 - 22.2	Yes	2022/2023	By-product of drinking water chlorination
HAA5	N/A	60	ppb	14.5 ³	ND - 19	Yes	2022/2023	By-product of drinking water disinfection
MICROBIOLOGICAL								
<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Level Found</u>		<u>Meets State & Federal Standards</u>	<u>Sample Date</u>	<u>Likely Source</u>	
Total Coliform Bacteria	0	Presence in >1 sample	1 positive sample		Yes	2023	Naturally present in the environment	
E. Coli	0	Presence in a routine sample with repeat issues or other conditions met	1 positive routine sample, no repeat issues or other conditions met		Yes	2023	A more restricted group of bacteria that almost always originates in a human or animal gut	
<p>Footnotes:</p> <p>(1) None of the individual lead-and-copper sample results exceeded the established Action Levels. At least 90% of the sample results were at or below the Highest Level Found. Since the 90th percentiles of the lead-and-copper concentrations have been consistently below the established Action Levels, your waterworks remains in the Triennial Reduced Monitoring for the contaminants.</p> <p>(2) The highest level of chloramines is the highest of the four running annual averages of chloramines from 01/01/2023 through 12/31/2023. The range of chloramines is the lowest and the highest of the individual chloramines measured in 2023.</p> <p>(3) The highest level of TTHM or HAA5 is the highest of the four locational running annual averages over the period of 01/01/2023-12/31/2023. The range of TTHM or HAA5 is the lowest and the highest concentrations in the individual samples collected from four sample sites in 2023.</p> <p>Please note: Not all sample types are recurring or have an annual frequency.</p>							<p>MCLs are set at very stringent levels. To experience the possible health effects described for many regulated contaminants, a person would have to drink two liters of water at the MCL level every day for a lifetime to have a one-in-a- million chance of having a possible health effect.</p>	

LANGLEY AFB DISTRIBUTION SYSTEM

(Samples collected by USAF Bioenvironmental Engineering and analyzed by EPA-certified lab, EUROFINS USA)

2020 WATER QUALITY TESTING RESULTS UNREGULATED CONTAMINANTS

UNREGULATED CONTAMINANT MONITORING REGULATION-4 (UCMR4)

This monitoring provides a basis for future regulatory actions to protect public health.

<u>Contaminant</u>	<u>Units</u>	<u>MRL</u>	<u>Max</u>	<u>Range</u>	<u>Sources and Comments</u>
Geranium	µg/L	0.3	<0.3	<0.3	Trace Metals
Manganese	µg/L	0.4	24.1	2.9 – 24.1	Trace Metals
alpha-Hexachlorocyclohexane	µg/L	0.01	<0.01	<0.01	Pesticides and pesticide manufacturing byproduct
Chlorpyrifos	µg/L	0.03	<0.03	<0.03	Pesticides and pesticide manufacturing byproduct
Dimethipin	µg/L	0.20	<0.02	<0.02	Pesticides and pesticide manufacturing byproduct
Ethoprop	µg/L	0.03	<0.03	<0.03	Pesticides and pesticide manufacturing byproduct
Oxyfluorfen	µg/L	0.05	<0.05	<0.05	Pesticides and pesticide manufacturing byproduct
Profenofos	µg/L	0.3	<0.3	<0.3	Pesticides and pesticide manufacturing byproduct
Tebuconazole	µg/L	0.2	<0.2	<0.2	Pesticides and pesticide manufacturing byproduct
Permethrin, cis & Tran	µg/L	0.04	<0.04	<0.04	Pesticides and pesticide manufacturing byproduct
Tribufos	µg/L	0.07	<0.07	<0.07	Pesticides and pesticide manufacturing byproduct
Butylated Hydroxyanisole	µg/L	0.03	<0.03	<0.03	Semi-volatile organic compounds
o-Toluidine	µg/L	0.007	<0.007	<0.007	Semi-volatile organic compounds
Quinoline	µg/L	0.02	<0.02	<0.02	Semi-volatile organic compounds
1-Butanol	µg/L	2.0	<2.0	<2.0	Organic alcohols
2-Methoxyethanol	µg/L	0.4	<0.4	<0.4	Organic alcohols
2-Propen-1-ol	µg/L	0.5	<0.5	<0.5	Organic alcohols

Footnotes:

Unregulated contaminants are those that do not yet have a drinking water standard set by the U.S Environmental Protection Agency (EPA). The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a standard. Langley AFB began sampling in May 2019; sampling was completed in August 2020.

Please note: Not all sample types are recurring or have an annual frequency.

LANGLEY AFB DISTRIBUTION SYSTEM

(Samples collected by USAF Bioenvironmental Engineering and analyzed by EUROFINs USA EPA-certified lab)

2020 WATER QUALITY TESTING RESULTS UNREGULATED CONTAMINANTS

UNREGULATED CONTAMINANT MONITORING REGULATION - 4 (UCMR4)

This monitoring provides a basis for future regulatory actions to protect public health.

<u>Contaminant</u>	<u>Units</u>	<u>MRL</u>	<u>Max</u>	<u>Range</u>	<u>Sources and Comments</u>
Bromochloroacetic Acid (BCAA)	µg/L	0.3	3.3	0.3 – 3.3	Haloacetic Acids
Bromodichloroacetic Acid (BDCAA)	µg/L	0.5	2.3	<0.5 – 2.3	Haloacetic Acids
Chlorodibromoacetic Acid (CDBAA)	µg/L	0.3	0.7	<0.3 – 0.7	Haloacetic Acids
Dibromoacetic Acid (DBAA)	µg/L	0.3	0.4	<0.3 – 0.4	Haloacetic Acids
Dichloroacetic Acid (DCAA)	µg/L	0.2	27.1	1.6 – 27.1	Haloacetic Acids
Monobromoacetic Acid (MBAA)	µg/L	0.3	0.37	<0.3 – 0.37	Haloacetic Acids
Monochloroacetic Acid (MCAA)	µg/L	2.0	2.9	<2.0 – 2.9	Haloacetic Acids
Tribromoacetic Acid (TBAA)	µg/L	2.0	<2.0	<2.0	Haloacetic Acids
Trichloroacetic Acid (TCAA)	µg/L	0.5	11.7	0.7 – 11.7	Haloacetic Acids

Footnotes:

Unregulated contaminants are those that do not yet have a drinking water standard set by the U.S Environmental Protection Agency (EPA). The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a standard. Langley AFB began sampling in May 2019; sampling was completed in August 2020.

Please note: Not all sample types are recurring or have an annual frequency.

ADDITIONAL INFORMATION OF INTEREST

VIOLATIONS

Langley Air Force Base received notification of an alleged violation. The violation was in relation to routine total coliform monitoring during the calendar year 2023. Five samples intended to be taken for February 2023 were taken two days too early on 30 January 2023. This resulted in only taking five of the ten required samples in February. The importance of proper monitoring timeframes was discussed, and personnel were retrained to prevent future recurrence of this error.

FLUORIDE

Fluoride is added to water to help prevent tooth decay. Newport News Waterworks adheres to drinking water regulations set by U.S. EPA and guidance provided by the Virginia Department of Health (VDH). VDH has adopted the recommendation of 0.7 mg/L, set by U.S. Department of Health and Human Services, as the optimum level of fluoride concentration in drinking water. This is the target Waterworks strives to achieve. Information about fluoridation, oral health, and current issues is available at www.cdc.gov/fluoridation.

HARDNESS

U.S. EPA has not set a standard for hardness. Water treated by NNWW is considered moderately hard (4 - 6 grains, which is equal to 61 - 120 mg/L as calcium carbonate or CaCO₃) per American Society of Engineers. In 2023, the average was 56 mg/L with a range of 43 - 70.

SODIUM

U.S. EPA has not set a standard for sodium in drinking water. However, sodium levels are usually low and unlikely to be a significant contribution to adverse health effects. The average level of sodium found in our treated water in 2023 was 12.2 mg/L and the range was 11.8 - 12.7. Should you have a health concern, please contact your health care provider.

NNWW CONSUMER CONFIDENCE REPORT

The expanded versions of both reports featuring additional test results, are available online at www.nnva.gov/waterqualityreport. A paper copy of this report is available at all local libraries in the Waterworks service area, in the NNWW walk-in services lobby at 700 Town Center Drive in Newport News, and in city halls and county offices in our service area. If you would like to receive a copy of this report in the mail, please call Waterworks at 757-926-1000.

NNWW LOCAL MEETINGS

Because Waterworks is a department of the City of Newport News, major decisions about your drinking water are made by Newport News City Council. They meet on the second and fourth Tuesdays of each month at 7:00pm, and you are welcome to attend and participate. These meetings are broadcast live on Newport News City Channel (in Newport News - Cox channel 48 and Verizon FIOS channel 19) and can be viewed live or on-demand by all customers in our service area on the web at www.nnva.gov/nntv.

Questions can be directed to:

633d Operational Medical Readiness Squadron
Bioenvironmental Engineering Office Commercial:
(757) 764-7760 DSN: 574-7760

Email: usaf.jble.633-mdg.list.633-omrs-sgxb-personnel@health.mil

CY2023 Consumer Confidence Report (CCR) Language Regarding PFAS

What are per- and polyfluoroalkyl substances and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industries and consumer products around the globe, including in the U.S., since the 1940s. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams such as aqueous film-forming foam, or AFFF, used for fighting petroleum fires at airfields and in industrial fire suppression processes. PFAS compounds are persistent in the environment, and some are persistent in the human body – meaning they do not break down and they can accumulate over time.

Is there a regulation for PFAS in drinking water?

In May 2016, the Environmental Protection Agency (EPA) established a lifetime health advisory (LHA) level at 70 parts per trillion (ppt) for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both compounds are types of PFAS. On 10 April 2024, the EPA published new drinking water standards for certain PFAS under the Safe Drinking Water Act (SDWA). AF is reviewing the EPA’s new rule now and will incorporate these standards into future communication and sampling/analysis efforts.

Out of an abundance of caution, DoD pursued PFAS testing and response actions beyond EPA SDWA requirements. In 2020, the DoD established a policy to monitor drinking water for 17 PFAS compounds at all service owned and operated water systems. If results confirmed the drinking water contained PFOA and PFOS at individual or combined concentrations greater than 70 ppt, water systems quickly took action to reduce exposures. While not a SDWA requirement, in 2023, DoD improved upon its 2020 PFAS drinking water monitoring policy by expanding the list of PFAS compounds monitored to 29, implementing continued monitoring of systems with detectable PFAS over the laboratory Method Reporting Limits (MRL), and requiring initial mitigation planning actions.

Has Langley AFB tested its water for PFAS?

Yes. In March 2023, June 2023, September 2023, December 2023, and January 2024 samples were collected from the entry point to the distribution system on Langley AFB.

PFAS Detected Above MRL, but were below 70 ppt

We are informing you that 4 of the 29 PFAS compounds covered by the sampling methods were detected above the Method Reporting Limit (MRL). The results are provided in Table 1, and public notification of the sample results that had been already taken were provided in the CCR published on 1 July 2023. PFOS specifically was detected but was below 70 ppt. As PFOA and PFOS were below the 70ppt, there is no immediate cause for concern and we will continue to monitor the drinking water closely.

2023-2024 UNREGULATED CONTAMINANT MONITORING REGULATION-5 (UCMR5) RESULTS

Contaminant	Unit	MRL	Average Concentration	Range of Test Results
Perfluoropentanoic Acid (PFPeA)	ppt	3.0	3.8	<3.0 – 4.5
Perfluorohexanoic Acid (PFHxA)		3.0	3.9	<3.0 – 4.8
Perfluorohexanesulfonic Acid (PFHxS)		3.0	3.9	<3.0 – 4.1
Perfluorooctanesulfonic Acid (PFOS)		4.0	5.6	<4.0 – 5.6
Perfluorooctanoic Acid (PFOA)		4.0	Non-Detect	<4.0