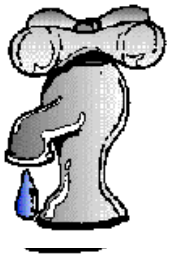

NAVPHIBASE LITTLE CREEK
VIRGINIA BEACH, VIRGINIA
2003 WATER QUALITY REPORT

Naval Amphibious Base, Little Creek is committed to providing you drinking water that is safe and reliable. Little Creek believes that providing you with accurate information about your water is the best way to assure you that your water is safe. This Water Quality Report will explain where your water comes from and contains tables listing all contaminants detected in your water in 2003. The levels of all contaminants detected in your drinking water were less than the Maximum Contaminant Levels prescribed by the Environmental Protection Agency (EPA) and the Virginia Department of Health.

Little Creek purchases drinking water from the City of Norfolk. Water from Lake Gaston is blended with Norfolk's water and is treated at the Moores Bridges Water Treatment Plant in Norfolk. Norfolk's primary water supply comes from Lake Prince and Western Reservoir in Suffolk and Lake Burnt Mills in Isle of Wight County. From the reservoirs, water is pumped through pipes to the treatment plant. Water treatment chemicals are added to the water, causing small solid particles to clump together and sink to the bottom of a settling basin. The water is then filtered to remove bacteria, algae, and other impurities. Finally, the water is disinfected to kill any remaining bacteria. The Moores Bridges Water Treatment Plant provides state of the art treatment technology and surpasses all state and federal water quality standards and regulations. Moores Bridges not only treats the water, but also tests it for over 230 substances, and the Navy collects 20 bacteriological samples per month providing continuous monitoring for the highest water quality possible.

DRINKING WATER AND YOUR HEALTH

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.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Contaminants that may be present in source water include: (1) *Microbial contaminants,* such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) *Inorganic contaminants,* 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. (3) *Pesticides and herbicides,* which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. (4) *Organic chemical contaminants,* including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems. (5) *Radioactive contaminants,* which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water which must provide the same protection for public health.

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 systems 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 and/or 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 EPA Safe Drinking Water Hotline (800-426-4791).

Kidney dialysis patients should consult with their health care providers or dialysis centers in order to take special precautions when using chloraminated water. Fish owners should be sure chloramines are removed from the water before it is used in aquariums or ponds. Most pet stores sell water conditioners for chloraminated water.

WATER QUALITY DATA

The data tables shown below list only those contaminants that were present in your drinking water at levels detectable by laboratory equipment. This information is based on testing done during 2003. The EPA sets the Maximum Contaminant Levels (MCLs) and the Maximum Contaminant Level Goals (MCLGs) listed in the tables. The Regulated Substances Table and the Unregulated Substances Table are provided for your information and as required by the Consumer Confidence Rule.

REGULATED SUBSTANCES TABLE

Substance	Likely Source	Range	Average Level	Highest level	MCL	MCLG	Unit	Meets EPA Stds?
Atrazine	Herbicide	ND-0.06	ND	0.06	3	3	ppb	Yes
Barium	Erosion of natural deposits	20-40	27	40	2000	2000	ppb	Yes
Chloramine	Drinking water Disinfectant	3.1-3.7	3.4	3.7	4	4	ppm	Yes
Copper (2002 Data)	Corrosion of galvanized pipes; erosion of natural deposits	0.9 -866	90th percentile = 208	866	AL = 1300 (0 sites exceeded AL)	1300	ppb	Yes
Dalapon	Herbicide	ND–2.2	ND	2.2	200	200	ppb	Yes
Di(2-Ethylhexyl) Phthalate	Common laboratory cross-contaminant	ND-0.61	ND	0.61	6	0	ppb	Yes
Fluoride	Added for the prevention of tooth decay	0.16 – 1.22	0.90	1.09*	4	4	ppm	Yes
Gross Alpha Activity	Erosion of natural deposits	0.3-0.4	0.4	0.4	15	0	pCi/L	Yes
Gross Beta Activity	Erosion of natural deposits	3.4 – 5	4.2	5	50	0	pCi/L	Yes
Hexachlorocyclo-pentadiene	Pesticide Component	ND-0.08	ND	0.08	50	50	ppb	Yes
Haloacetic Acids (HAA5)	Drinking water disinfection by-product	<1 - 33	12.31**	49.25***	60	N/A	ppb	Yes
Lead (2002 Data)	Corrosion of household plumbing systems; erosion of natural deposits	<0.2 - 151	90th percentile = 6.1	151	AL = 15 (1 Site exceeded AL)	0	ppb	Yes
Nitrate as Nitrogen	Erosion of natural deposits, runoff	0.16-0.46	0.27	0.46	10	10	ppm	Yes
Radium 226/228	Erosion of natural deposits	1.3-1.8	1.6	1.8	5	0	pCi/L	Yes
Total Organic Carbon	Occurs naturally in the environment	2.29-3.69	2.81	3.69	TT	TT	ppm	Yes
Trihalomethanes (THM)	Drinking water disinfection by-product	<1 - 60	13.7**	51.13**	80	N/A	ppm	Yes

* This number is the highest monthly value of compliance samples for the calendar year.
** This number is the average of the values of compliance samples for the calendar year.
*** This number is the highest quarterly average of compliance samples for the calendar year.
ND - Not Detected
TT - Treatment Technique. A required process intended to reduce the level of a substance in drinking water.

TURBIDITY TABLE

Substance	Likely Source	Lowest monthly percentage of samples meeting the limit	Highest Level (NTUs)	MCL	MCLG	Unit	Meets EPA Stds?
Turbidity	Soil runoff	98%	0.4	<95%	N/A	NTU	?es

Turbidity is a measure of the cloudiness of water. Turbidity, by itself, is not harmful, but it can interfere with the disinfection of drinking water

COLIFORMS TABLE

Substance	Likely Source	Range	Highest Monthly Level	MCL	MCLG	Unit	Meets EPA Stds?
Total Coliform Bacteria	Naturally present in the environment	0 - 1	1	Presence of coliform bacteria in more than one monthly sample*	0	Yes	Yes

*For a system that collects fewer than 40 samples per month.

Weekly testing for Coliform bacteria is performed throughout the Naval Amphibious Base Little Creek distribution system. If these bacteria are detected, we are required to take further samples in that portion of the distribution system. In October 2003 this routine testing indicated the presence of Coliform bacteria in one sample. The required repeat sampling indicated the absence of Coliform bacteria in all samples. Extensive flushing of the water system was performed and follow up sampling showed that the water quality was restored. There was no violation of the MCL.

UNREGULATED SUBSTANCES TABLE

Substance	Likely Source	Range	Avg. Level	Highest Level	MCL	Unit
Aluminum	Erosion of natural deposits. It also comes from the addition of treatment chemicals at the water treatment plant.	0.18-0.35	0.28	0.35	None	ppm
Boron	Erosion of natural deposits	ND-0.1	ND	0.1	None	ppm
Metolachlor	Pesticide component	ND-0.6	ND	0.6	None	ppb
Sodium	Occurs naturally in the environment; also comes from the addition of treatment chemicals at the water treatment plant.	11-22	17	22	None*	ppm
Sulfate	Occurs naturally in the environment; also comes from the addition of treatment chemicals at the water treatment plant	23-32	27	32	None	ppm

* For physician-prescribed “no salt diets” a limit of 20 ppm is suggested.

DEFINITIONS

- **Action Level (AL)** - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Coliform -** A group of bacteria commonly found in the environment. They are an indicator of potential contamination of water. Adequate and appropriate disinfection effectively destroys coliform bacteria.
- **Contaminant** - Any natural or man-made physical, chemical, biological, or radiological substance or matter in water, which is at a level that may have an adverse effect on public health, and which is known or anticipated to occur in public water systems.
- **Disinfection** - A process that effectively destroys coliform bacteria
- **Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology.
- **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.
- **Nitrates** - A dissolved form of nitrogen found in fertilizers and sewage by-products, which may leach into groundwater and other water sources. Nitrates may also occur naturally in some waters.
- **NTU (nephelometric turbidity unit)** - A measure of the clarity of water.
- **Pathogens, disease-causing pathogens, waterborne pathogens** - A pathogen is a bacterium, virus or parasite that causes or is capable of causing disease. Pathogens may contaminate water and cause waterborne disease.
- **pCi/L, picocuries per liter** - A measurement of radiation released by a set amount of a certain compound.
- **pH** - A measure of the acidity or alkalinity of water.
- **ppb, ppm** - part per billion, part per million. Measurements of the amount of contaminant per unit of water. A part per million is like one cent in $10,000 and a part per billion like one cent in $10,000,000.
- **Trihalomethanes (THM)** – Four separate compounds (chloroform, dichlorobromomethane, dibromochloromethane, and bromoform) that form as a result of disinfection.
- **Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water.
- **Turbidity** - A measure of the cloudiness of water caused by suspended particles.

NEED MORE INFORMATION? TRY ANY OR ALL OF THE FOLLOWING:

- Ms. Deborah Meredith, Potable Water Program Manager, at 444-3009 extension 391 or e-mail at meredithdd@pwcnorva.navy.mil
- City of Norfolk Website: www.city.norfolk.va.us/utilities
- State of Virginia Department of Health Website: www.vdh.state.va.us/dw
- Environmental Protection Agency’s Safe Drinking Water Hotline at 1-800-426-4791
- Environmental Protection Agency Website: www.epa.gov/safewater