NSA NORFOLK, NORTHWEST ANNEX
CHESAPEAKE, VIRGINIA
2003 WATER QUALITY REPORT

NSA Norfolk, Northwest Annex is committed to providing you drinking water that is safe and reliable. We believe that providing you with accurate information about your water is the best way to assure you that your water is safe. This 2003 Water Quality Report explains where your water comes from, and lists all of the contaminants detected in your drinking water.

NSA Norfolk, Northwest Annex obtains raw water from the Yorktown aquifer, a naturally clean source of water. Pumps, located in pump houses, are used to withdraw groundwater from eight deep water wells at the Base. Five wells supply water treatment plant No. 1 and are located east of Wren Street in the vicinity of the Navy Housing complex. Three other wells supply water to treatment plant No. 2 and are located between Relay Road and Douglas A. Monro Road, south of the Coast Guard Facility. Raw water (sometimes referred to as untreated water) is pumped into the treatment plant and passes through pressure filters called “greensand filters.” The greensand filters are mainly designed to remove naturally occurring iron and manganese from the groundwater. After passing through the filters, chlorine is added to the treated water to disinfect the water and protect you against microbiological contamination. This treated water is then pumped into storage tanks prior to being fed into the distribution system and ultimately to your faucet. Last year, NSA Norfolk, Northwest Annex monitored your drinking water for more than 80 different contaminants.

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.

The Virginia Department of Health conducted a Source Water Assessment of the Navy Security Group Activity – NW Waterworks in 2001. Drilled wells A, B, C, 297, 298, and 299 were determined to be of low susceptibility of contamination using the criteria developed by the state in its approved Source Water Assessment Program. Drilled wells 158 and 161 were determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known Land Use Activities Potential Conduits to Groundwater Utilized at Land Use Activity sites in Zone 1 Susceptibility Explanation Chart, and Definitions of Key Term. The report is available by contacting your waterworks system owner/operator at the phone number or address included in the CCR.

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	Highest Level Detected	MCL	MCLG	Unit	Meets EPA Stds?
Copper	Corrosion of galvanized pipes; erosion of natural deposits	< 10 – 600	90th percentile = 540	AL = 1300(0 sites exceeded AL)	1300	ppb	Yes
Fluoride	Added for the prevention of tooth decay	0.18 – 0.23	0.23	4	4	ppm	Yes
Gross Alpha Activity	Erosion of natural deposits	<1.1 - <1.5	<1.5	15	0	PCi/L	Yes
Gross Beta Activity	Erosion of natural deposits	<1.6 - 2.6	2.6	50	0	pCi/L	Yes
Lead	Corrosion of household plumbing systems; erosion of natural deposits	<1 – 85	90th percentile = 11	AL = 15 (1 site exceeded AL)	0	ppb	Yes
Nitrate as Nitrogen	Erosion of natural deposits, runoff	0.17 – 0.19	0.19	10	10	ppm	Yes
Radium 226/228	Erosion of natural deposits	ND – 0.9	0.9	5	0	pCi/L	Yes
Selenium (2003 Data)	Erosion of natural deposits	<0.002	<0.002	0.05	0.05	ppm	Yes

ND = not detected

UNREGULATED SUBSTANCES TABLE

Substance	Likely Source	Level Detected	MCL	Unit
Alkalinity	Erosion of natural deposits	124 -151	None	ppm
Aluminum	Erosion of natural deposits. It also comes from the addition of treatment chemicals at the water treatment plant.	0.149 - 0.169	None	ppm
Chloride	Erosion of natural deposits	27 -29	None	ppm
Hardness – Total	Erosion of natural deposits	114	None	ppm
Iron	Erosion of natural deposits, leaching from pipes, residual from drinking water treatment process	<0.010 – 0.067	None	ppm
Sodium	Occurs naturally in the environment; also comes from the addition of treatment chemicals at the water treatment plant.	18.5 - 24.2	None*	ppm
Sulfate	Occurs naturally in the environment; also comes from the addition of treatment chemicals at the water treatment plant.	19 - 27	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.
- **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.
- **pCi/L, picocuries per liter** - A measurement of radiation released by a set amount of a certain compound.
- **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.

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: meredithdd@pwcnorva.navy.mil
- State of Virginia Department of Health Website: www.vdh.state.va.us/dw
- EPA’s Safe Drinking Water Hotline at 1-800-426-4791
- Environmental Protection Agency Website: www.epa.gov/safewater