

NAS Jacksonville 2012 Water Quality Report

From the NAS Jax Public Works Department

The Naval Facilities Engineering Command Southeast (NAVFAC SE), Public Works Department (PWD), as the NAS Jacksonville (Station) water utility service provider, is very pleased to provide you with the 2012 annual Water Quality Report. PWD provides a safe and dependable supply of drinking water through three deep wells which draw from the Floridian aquifer.

In 2009, the Department of Environmental Protection (DEP) performed a source water assessment that identified no potential sources of contamination near NAS Jax wells. Assessment results are on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

Treatment of the water supply includes aeration for odor control and chlorination for disinfection. In 2003, the station began receiving potable water from JEA, therefore, some of the data in this report is from JEA testing.

PWD Jacksonville routinely monitors for contaminants in your drinking water according to federal and state laws and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period Jan. 1 to Dec. 31, 2012. Data obtained before Jan. 1, 2012, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations.

Below are the definitions of terms and abbreviations used in the report:

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is 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 - The "Goal"(MCLG) is 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.

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 Residual Disinfectant 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

Non-Detects (ND) –indicates that the substance was not found by laboratory analysis.

Not Applicable (N/A) – No value limit or restriction has been applied to this particular parameter.

Parts per billion (ppb) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per million (ppm) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

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

NON-SECONDARY TEST RESULTS TABLE – NAS JACKSONVILLE

Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage/ Number	MCL G	MCL	Likely Source of Contamination
Total Coliform Bacteria (positive samples)	1-12/2012	N	4.76	0		Naturally present in the environment
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Total Number of Positive Samples for the Year	MCL G	MCL	Likely Source of Contamination
Fecal coliform and E.coli in the distribution system (positive samples)	1-12/2012	Y	2	0	0	Human and animal fecal waste

Results in the Level Detected column for radiological contaminants and inorganic contaminants are the highest detected level at any sampling point, depending on the sampling frequency. The water received from JEA had minute detections of radiological parameters, SOCs and inorganic contaminants, all below maximum contaminant levels, as indicated below.

Radiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MC L	Likely Source of Contamination
Gross Alpha (pCi/l) (JEA/NAS)	03 & 06/11	N	5.3	ND – 5.3	0	15	Erosion of natural deposits
Radium 226&228 (pCi/l) (JEA/NAS)	03/11 & 06/11	N	2.134	ND – 2.134	0	5	Erosion of natural deposits

Inorganic Contaminants							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Antimony (ppb) (NAS/JEA)	03/11	N	4.6	ND – 4.6	6	6	Discharge from petroleum refineries; fire retardants, ceramics; electronics; solder.
Arsenic (ppb) (JEA only)	03/11	N	0.924	ND-0.924	0	10	Erosion from natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm) (JEA/NAS)	03-04/11, 06/11	N	0.0315	0.0113-0.0315	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Lead (ppb) (JEA only)	03/11	N	4.13	ND – 4.13	0	15	Residue from man-made pollution such as auto emissions and paint; lead pipe; casing and solder
Fluoride (ppm) (JEA/NAS)	03/11, 06/11	N	0.956	0.38 - 0.956	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Mercury (ppb) inorganic (JEA)	03/11	N	0.009	ND - 0.009	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel (ppb) (JEA)	03/11	N	1.45	ND - 1.45	N/A	100	Pollution from mining and refining operations; Natural occurrence in soil
Selenium (ppb) (JEA only)	03/11	N	2.26	ND – 2.26	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm) (JEA/NAS)	03-04/11, 06/11	N	86.249	8.146 – 86.249	N/A	160	Salt water intrusion, leaching from soil

Thallium (ppb) (JEA)	03/11	N	1.54	ND – 1.54	0.5	2	Leaching from ore processing sites; discharge from electronics, glass and drug factories
----------------------	-------	---	------	-----------	-----	---	--

Disinfection By-Products (TTHMs/HAA5/Chlorine Residual) (NAS only)

For chlorine, the level detected is the the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all the individual samples collected during the past year.

For haloacetic acids or TTHM, the level detected is the highest RAA, computed quarterly, of quarterly averages of all samples collected if the system is monitoring quarterly or is the average of all samples taken during the year if the system monitors less frequently than quarterly. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDL G	MC L or MR DL	Likely Source of Contamination
Total Trihalomethanes (TTHM) (ppb)	Quarterly 2012	N	25.75	23.21-27.41	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly 2012	N	16.69	16.63-17.21	N/A	60	By-product of drinking water chlorination
Chlorine Residual (ppm)	Monthly 2012	N	1.68	0.8 – 2.3	4	4.0	Water additive used to control microbes

Secondary Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDL G	MC L or MR DL	Likely Source of Contamination
Sulfate (ppm) (NAS/JEA)	03/11 and 06/11	**Y	255	22.8 – 255	N/A	250	Natural occurrence from soil leaching
Total Dissolved Solids (ppm) (NAS/JEA)	03/11 and 06/11	**Y	686	154 - 686	N/A	500	Natural occurrence from soil leaching
Odor (TON) (JEA)	03/11	Y	4	ND - 4	N/A	3	Natural occurrence from soil leaching

** While the MCL was exceeded for TDS and Sulfate, levels recorded for these parameters do not show adverse health effects.

Lead and Copper (Tap Water) (NAS only)

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MC LG	AL (Action Level)	Likely Source of Contamination
Lead (tap water) (ppb)	08-09/11	N	11	3 of 60 sites	0	15	Corrosion of household plumbing systems; erosion of natural deposits
Copper (tap water) (ppm)	08-09/11	N	0.33	0 of 60 sites	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Fecal Coliform/E. coli. Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

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. Treatment of your water supply includes aeration for odor control and chlorination for disinfection.

Contaminants that may be present in source water include:

- (A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) **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.
- (C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- (E) **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, Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

MCLs are set at very stringent levels: to understand the possible health effects described for many regulated contaminants, a person would have to drink two liters of water every day at the MCL for a lifetime to have a one-in-a-million chance of having the described health effect.

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. 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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

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. NAVFAC SE 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 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>.

For more information or questions concerning this report, contact PWD Water Utilities at 542-6440.