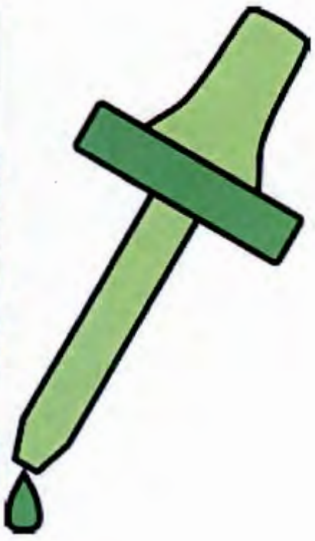
Overview of Test Results for Lead in Drinking Water and Corrective Actions at the John F. Kennedy Child Development Center (Building 1376) and School Age Care Facility (Building 1297)

The Navy is committed to maintaining safe drinking water on its installations. City water supplied to the Navy and the Navy's water distribution system are regularly tested and in compliance with the Safe Drinking Water Act. Because lead exposure is a particular concern for children, and lead may be introduced to drinking water through the pipes, fittings, solder, and fixtures inside a building, the EPA recommends, but does not mandate, that we test the lead content of drinking water in priority areas like the John F. Kennedy Child Development Center (Building 1376) and School Age Care Facility (Building 1297).

Navy environmental personnel conducted lead testing at both facilities in accordance with Navy, Rhode Island Department of Health (RIDOH) and U.S Environmental Protection Agency (EPA) guidelines. Samples from various locations in these facilities were sent to a state-certified laboratory for analysis.

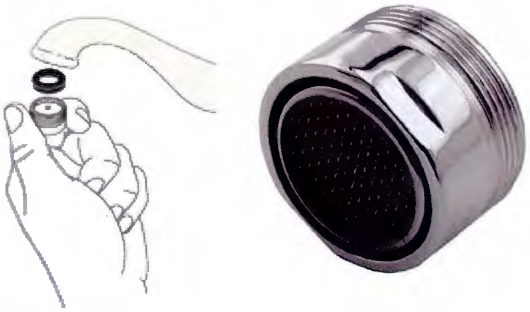
Outlets used for drinking, cooking and hand washing were tested at the John F. Kennedy Child Development Center and School Age Care Facility. Out of 87 samples collected, one sample site at the School Age Care tested higher than 20 parts per billion (ppb) of lead. To put those numbers into perspective, one part per billion is equal to one drop of water in an Olympic size swimming pool.



At 20 ppb, the EPA recommends additional testing and corrective measures. The sample site is located in the 2nd floor of Building 1297 in the Teen Center. This same faucet also exceeded the Rhode Island Lead Poison Prevention limit of 15 ppb for the first draw, but is lead safe by these regulations since the follow on flush sample tested below 15 ppb. The faucet in the Teen Center was replaced with a lead-free fixture and it will be tested in approximately six months.

Four **invalid** sample sites tested above 20 ppb at the John F. Kennedy Child Development Center. Three of these four sample sites were taken from hot water only faucets that are used for hand washing in Rooms 102, 103 and 104. The EPA Guidance, the 3Ts for Reducing Lead in Drinking Water, and Rhode Island's Lead Poison Prevention Regulation specifies sampling and testing of the cold water tap only since flushed cold water is used for cooking and drinking and hot water is likely to contain greater amounts of lead. Since these fixtures do not have cold water taps, they do not need to be sampled nor tested. The 4th sample site was from a dish washing sink in the kitchen. The faucet was missing from the base and was sampled, contrary to protocol, through a hole in the base where the faucet would normally be attached. In addition, this 4th site is not used for cooking, drinking or hand washing. The faucets in all four of these rooms were replaced with lead-free fixtures. The kitchen faucet will be tested in approximately six months.

The single valid result, that exceeded the EPA recommended safe level of 20 ppb or below, was at a hand washing sink located on the 2nd floor of the School Age Care Facility in the Teen Center. The water from this faucet tested at 21 ppb lead. Follow-up sampling at this outlet was conducted after removing the faucet aerator; showed the drinking water was below the EPA and RIDOH levels. A **faucet aerator** (or tap aerator) is often found at the tip of modern indoor water faucets. Without an aerator, water usually flows out of a faucet as one big stream. An aerator spreads this stream into many little droplets, which helps save water and reduce splashing. However, the aerator and screen can trap debris which can accumulate lead.



The test results are presented in two tables:

- Table 1 **Summary of Results** summarizes the data by category of use (e.g., drinking, cooking, washing).
- Table 2 **Summary Statistics** summarizes all the data.

Table 1 provides a description of each sampling location using three columns; *Category*, *Sampling ID,* and *Outlet Description*. The *Category* column gives information about whether the outlet is used for drinking water (water fountain), cooking (food preparation), or washing (primarily hand-washing). The *Sample ID* column is the number

used to label each sample bottle. The *Outlet Description* column contains additional information to describe the outlet sampled under each category.

The next set of columns in **Table 1** provide *Initial Sampling Results,* and for those locations that exceeded the recommended level of 20 ppb, the *Re-sampling Results*.

EPA's sampling protocol requires sampling water not used for between 8 and 18 hours prior to first draw sampling. Therefore, *Initial Sampling Results* were from first draw samples collected early in the morning before the facilities opened and before any water was used. The *Initial Sampling Results* also indicate whether resampling is required and the date that fixtures greater than 20 ppb were secured. Outlets that exceeded 20 ppb are highlighted in yellow.

The *Re-sampling Results* includes columns for *First Draw* and flushing samples which help determine the source of lead. For cooking and washing outlets, aerators were removed before retesting:

- If the lead concentration of the 30 second flush sample resulted in lower than 20 ppb lead, the aerator was the source of lead and the outlet can be used for drinking if the aerator is cleaned or replaced. ***The sink in the Teen Center fits in this category.***
- If the lead concentration of the resampled first draw (but not the follow up 30 second flush) was greater than 20 ppb, the fixture was the source of lead. These fixtures can be used if water is flushed for 30 seconds before first use of the day or if replaced with new lead free fixtures. New lead free fixtures will be tested approximately six months.
- If the lead concentration of the 30 second flush sample was greater than 20 ppb and greater than the lead concentration of the first draw resample, the source of lead is the plumbing upstream of the outlet. These outlets should be disconnected unless upstream plumbing is replaced.

The *Corrective Actions* column describes actions that were taken to remediate the source of lead. In the event that fixtures or upstream piping are replaced, there are columns for sampling data to show that the corrective actions were successful in reducing lead. These columns will be completed for the kitchen sink at the John F. Kennedy Child Development Center and the hand washing sink at School Age Care Facility's Teen Center when test results become available.

To learn more about lead in drinking water or to access additional water quality resources please visit the following sites:

EPA (lead in drinking water schools and day care centers):
http://water.epa.gov/drink/info/lead/schools_index.cfm

Annual water quality report at your home:
City of Newport:
http://www.cityofnewport.com/departments/utilities/water/consumer-confidence-report

Town of Portsmouth: http://www.portsmouthwater.org/reports.html

Navy Water Quality Reports:
http://www.cnic.navy.mil/regions/cnrma/installations/ns_newport/om/environmental_support/drinking_water.html

Drinking Water Taste, Odor, and Color:
http://water.epa.gov/drink/contaminants/secondarystandards.cfm
http://www.mass.gov/eea/docs/dep/water/drinking/alpha/a-thru-h/color.doc

Rhode Island Department of Health
http://www.health.ri.gov/healthrisks/poisoning/lead/

To answer any questions you may have on the sampling program contact Darlene Ward, the Naval Station Newport Drinking Water Program Manager, at 401-841-6376 or darlene.ward@navy.mil. If you have any health questions or concerns, we encourage you to contact your health care provider or, if you are a TRICARE beneficiary, please contact the Naval Health Care Clinic New England at either 401-841-4179 or 401-841-6776.