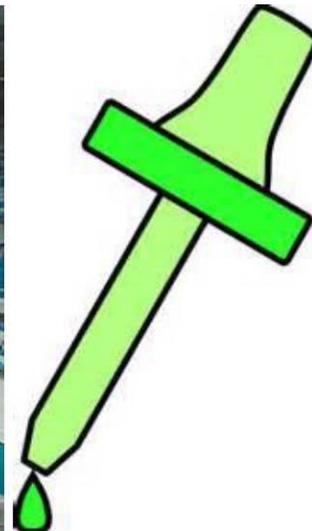


Overview of Testing Results for Lead in Drinking Water and Corrective Actions for
NAVAL STATION GUANTANAMO BAY, CUBA
ELEMENTARY SCHOOL (BLDG 1681)

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 is regularly tested and in compliance with the Safe Drinking Water Act. Because lead exposure is a particular concern for children, and lead may be added 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 such as youth centers (YCs), child development group homes (CDGHs) and child development centers (CDCs).

Navy environmental personnel conducted lead testing at the Naval Station Guantanamo Bay Elementary School in accordance with Navy and EPA guidelines. Samples from various locations in the ELEMENTARY SCHOOL were sent to a state-certified laboratory for analysis.

At the Naval Station Guantanamo Bay Elementary School, fifty-four (54) outlets used for drinking and cooking, as well as eighty-three (83) outlets used for hand washing were tested. Out of one hundred and thirty-seven (137) samples collected, sixty-seven (67) water outlet initially tested above the EPA recommended level for lead in drinking water in schools and childcare centers of 20 parts per billion (ppb). One part per billion is equal to one drop of water in an Olympic-size swimming pool.



The outlets that exceeded the EPA recommended level of 20 ppb were –

Drinking fountains:

Outside the Admin office in the Administrative building (AD) (170 ppb), school cafeteria (P-1) common eating areas (120 and 320 ppb), Room A1 Music Room Storage A-Wing (110 ppb), Room A3 Music Room in A-Wing(1700 ppb), Room A5 A-Wing IT Room (960 ppb), Room A7 A-Wing PTO Room (130 ppb), Room A-Wing Girl Scouts Room (1100 ppb), Room A11 A-Wing Boy Scouts Room (720 ppb), the fountain located at end of A-Wing (45 ppb), Room A12 A-Wing Storage Room (1000 ppb), Room A10 A-Wing Supply Storage (82 ppb), Room A8 A-Wing Supply Storage (66 ppb), Room A6- A-Wing Supply Storage (170 ppb), Room A2 A-Wing Science Storage (86 ppb), Room B1 B-Wing Computer Room (110 ppb), Room B3 B-Wing Printer Room (160 ppb), Room B2 B-Wing Teachers' lounge (74 ppb), Room B8 B-Wing Gifted Students (46 ppb), Room B10 B-Wing unlabeled Room (1500 ppb), Room B12 B-Wing Book Storage (180 ppb), Room B14 Art Room (300ppb), Room B16 Art Room (93 ppb), Room C4 C-Wing 4th Grade Room (180 ppb), Room C6 3rd Grade Room (470 ppb), Room C8 3rd Grade Room (1900 ppb), Room C10 Kindergarten room (250 ppb), Room C12 Kindergarten room (140 ppb), Room C16 Pre-K (Sure Start) Room (400 ppb), fountain located at end of C-Wing (130 ppb), Room C15 PSCD Room (130 ppb), Room C17 PSCD Room (510 ppb), Room C13 4th Grade Room (120 ppb), Room C11 4th Grade Room (140 ppb), Room C9 1st Grade (74 ppb), Room C7 1st Grade (930 ppb), Room C5 C-Wing unlabeled Room (120 ppb), Room C3 C-Wing ET Room (130 ppb), Room C1 C-Wing Supply Room (470 ppb).

Hand washing sinks:

Administrative building (AD) Teachers' lounge in Admin office (27 ppb), Room A14 boys' bathroom in A-Wing (48 ppb), Room A15 girls' bathroom in A-Wing (35 ppb and 93 ppb), Room A15 girls' bathroom in A-Wing (54 ppb), Room A5 A-Wing IT Room (39 ppb), Room A9 A-Wing Girl Scouts Room (56 ppb), Room A12 A-Wing Storage Room (26 ppb), Room A6 A-Wing Supply Storage (46 ppb), Room A2 A-Wing Science Storage (140 ppb), Room B18 girls' bathroom in B-Wing (34 ppb), Room C2 C-Wing 2nd Grade Room (61 ppb), Room C4 C-Wing 4th Grade Room (180 ppb), Room C4 C-Wing 4th Grade Room (190 ppb), Room C4 C-Wing 4th Grade Room (200 ppb), Room C8 3rd Grade Room (40 ppb), Room C8 3rd Grade Room (29 ppb), Room C10 Kindergarten room (97 ppb), Room C12 Kindergarten room (37 ppb), Room C16 Pre-K (Sure Start) Room (36 ppb), Room C15 PSCD Room (150 ppb), Room C13 4th Grade Room (530 ppb), Room C11 4th Grade Room (1500 ppb), Room C9 1st Grade (46 ppb), Room C9 1st Grade (46 ppb), Room C7 1st Grade (350 ppb), Room C5 C-Wing unlabeled Room (25 ppb), Room C3 C-Wing ET Room (1500 ppb).

For the hand washing sinks, follow-up sampling was conducted after removing the faucet aerators. 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. After removing the faucet aerators, retesting showed that the sinks were all below the EPA-recommended level.



Follow up sampling was also conducted at the drinking fountains. Twenty four (24) of the drinking fountains that were retested were found to still exceed the EPA recommended level of 20 ppb. These fountains have had the water supply disconnected and were removed from service. During retesting, it was discovered that Nine (9) of the drinking water outlets – the Bubbler Fountains located at end of A-Wing, B-Wing and C-Wing, the four (4) Fountains outside Admin Office and the two (2) in the School Cafeteria (P-1) Common Eating Area – were replaced between the first and second round of sampling. These were subjected to a new round of initial sampling and five (5) of these fountains remained above the EPA recommended level of 20 ppb. The 5 drinking fountains were disconnected from the water supply and removed from service.

A copy of all test results is enclosed for your information. 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 identification 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** provides *Initial Sampling Results*, and for those locations that exceeded the recommended level of 20 ppb the *Re-sampling Results*.

EPA sampling protocol requires water to not be 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 Elementary School 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 30 second flush sample resulted in lower than 20 ppb lead, the aerators were the source of lead and the outlet can be used for drinking if the aerators are cleaned or replaced. No outlets were 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 the fixtures are replaced and retesting confirms that the new fixtures do not leach lead. Twenty one (21) of the drinking fountain outlets were in this category and have been removed from service.
- 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. Eight (8) of the drinking fountain outlets were in this category and have been removed from service.

The *Corrective Actions* column describes actions that were taken to remediate the source of lead.

To learn more about lead in drinking water schools and day care centers visit this EPA website at: http://water.epa.gov/drink/info/lead/schools_index.cfm.

Navy Water Quality Reports:

http://www.cnic.navy.mil/regions/cnrse/om/environmental_support/water_quality_information.html

To answer any questions you may have on the sampling program, contact the Naval Station Guantanamo Bay Public Affairs Officer at 011-5399-4502. If you have any health questions or concerns, you are encouraged to call the Naval Hospital at 011-5399-72360 . On island, use the five-digit number.