

Lead Levels in Drinking Water at Shoreham Elementary School, Shoreham, VT

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July 1, 2018

TECHNICAL SUMMARY of RESULTS

The technical summary of results is not intended as a stand-alone document, but as a ready reference for the primary findings, including for those prioritizing outlets for remediation.

Most outlets (25 outlets, 89%) produced FD samples with detectable lead, but nearly three-quarters of these were at trace levels or lower (i.e., <1 ppb) and are not considered to be a safety concern. No samples exceeded the EPA action level. **Table 1** and **Figure 1** summarize the five outlets prioritized for remediation.

Table 1: Shoreham Elementary School outlets prioritized for remedial action (“priority outlets”).

Priority level	Concern	Rationale	Outlet ID	Outlet type & location	First Draw (ppb)	Flush (ppb)
Highest	Exceeds AAP recommended safety level for school water fountains	Potential for frequent use by children for direct consumption	OR04	kitchen sprayer	3	<1
			OR05	kitchen sink	2	<1
			GN01	classroom sink, Room 1	14	<1
			GN03	classroom sink, Room 2	2	n.d.
			PK02	classroom sink, kindergarten	3	<1
			YW01	office sink, library area	5	<1
Moderate	Exceeds AAP recommended safety level for school water fountains	Unlikely to be used by children for direct consumption	GN09	Utility sink	8	<1

Remedial actions include permanent (preferred) and temporary measures; appropriate actions depend on the source of lead in the water. FL samples had lower lead levels as compared to their associated FD sample, which suggests that the predominant source of the lead in the FD samples is the outlet fixtures or immediate connections (e.g., solder) rather than incoming water or pipes within the school. All FL samples were either non-detect for lead or lead was present only at trace levels (e.g., <1 ppb), which suggests that flushing may serve as an effective temporary measure for the priority outlets.

We recommend that SES pursue the following *permanent* remediation approach for priority outlets:

- 1) replace existing outlet fixtures with “lead-free” fixtures/solder or remove the outlets entirely
- 2) if replaced, verify remediation efficacy via follow-up lead testing following replacement

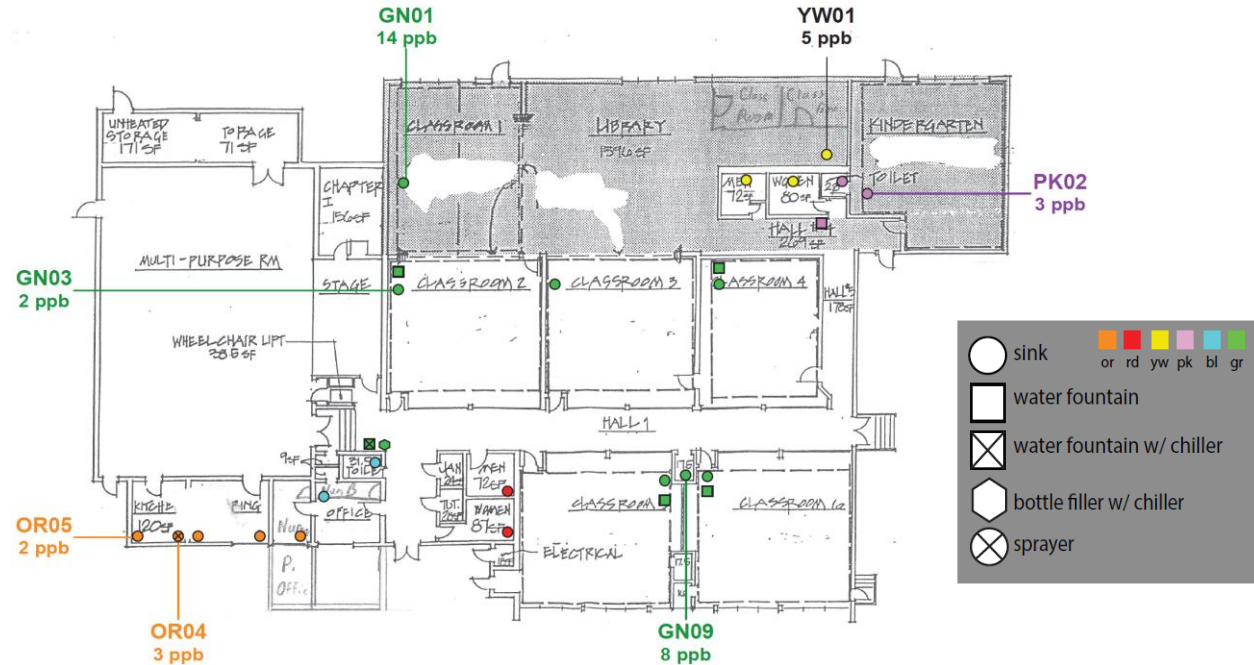


Figure 3. Shoreham Elementary School outlets prioritized for remediation due to FD samples that exceeded the health-based 1-ppb 2016 American Academy of Pediatrics recommended safety level.

Until priority outlets are permanently remediated, we suggest the following *temporary* approaches:

- 1) disconnect water supply to priority sinks in locations where water is not needed for non-consumption uses
- 2) for priority sinks in locations where water *is* needed for non-consumption uses,
 - a. establish school-wide policies for water consumption from outlets by outlet type (e.g., “only drink from water fountains and bottle fillers,” or “do not drink from sinks” or “flush prior to use for consumption), rather than location-specific policies
 - b. complement school-wide policy with age-appropriate signage at each priority outlet instructing on the school-wide policy and with educational outreach regarding the policy and its rationale

Finally, we recommend that SES communicate the findings of this work and remediation updates with the school community, as well as post this report and remediation updates in a readily accessible location (e.g., school website). A draft letter describing the results for a general audience is provided in the full report.