

## Lead Levels in Drinking Water at Bingham Memorial School, Cornwall, VT

### Technical Summary

Molly Costanza-Robinson, Ph.D\*; Gabrielle Davis, Sarah Kotin

Dept. of Chemistry & Biochemistry; Program for Environmental Studies, Middlebury College, Middlebury, VT.

\*Prof. of Environ. Chemistry, mcostanz@middlebury.edu

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This summary is not intended as a stand-alone document, but rather as a ready reference for the primary findings and recommendations. Outlets prioritized for remediation are listed in **Table 1** and their locations shown in **Figure 1**. A full report, including description of the study methods, complete data, and additional information, is available at [sites.middlebury.edu/mcostanz/research/lead](http://sites.middlebury.edu/mcostanz/research/lead).

**Table 1.** Bingham Memorial School outlets that exceeded the EPA action level (red) or the American Academy of Pediatrics safety level (blue) by outlet type, lead level, and remediation priority level.

Outlet Type	Exceedance Level <sup>1</sup>	Outlet ID	Outlet Location (see also Figure 1)	First Draw (ppb)	Flush (ppb)	Remediation Priority <sup>2</sup>
Water fountain or bottle filler	First Draw exceeds AAP safety level	BL06	5th grade classroom water fountain (on sink)	7	2	Highest
Kitchen sink or sprayer	First Draw exceeds AAP safety level	RD04	kitchen sprayer	11	2	Highest
		RD02	kitchen storage room sink	6	<0.5	Highest
		RD03	kitchen sink	3	<0.5	Highest
Classroom or office sink	First Draw exceeds EPA action level	BL09	special education classroom sink	18	1	Highest
		BL01	4th grade classroom sink	8	1	High
		BL06.5	5th grade classroom sink	4 (hot)*	2 (hot)* / <0.5 (cold)	High
		GN02	2nd grade classroom sink	3	<0.5	High
		GN06	1st grade classroom sink	3	1	High
		GN07	kindergarten classroom sink	3	<0.5	High
		BL07	3rd grade classroom sink	2	<0.5	High
BL08	6th grade classroom sink	2	<0.5	High		
Bathroom sink	First Draw exceeds AAP safety level	BL03	bathroom sink (east entrance)	4	1	High

\* cold/hot water lines were crossed, resulting in inadvertently sampling hot lines

Low FL sample lead concentrations for outlets that delivered elevated FD samples suggest that the predominant source of lead is the fixtures or their immediate connections rather than more distal pipes or the incoming water supply, which may simplify potential remediation approaches.

<sup>1</sup> Outlets/samples exceeded the U.S. Environmental Protection Agency (EPA) action level if water lead levels were  $\geq 15$  ppb; Outlets/samples exceeded the American Academy of Pediatrics (AAP) safety level if water lead levels were  $>1$  ppb.

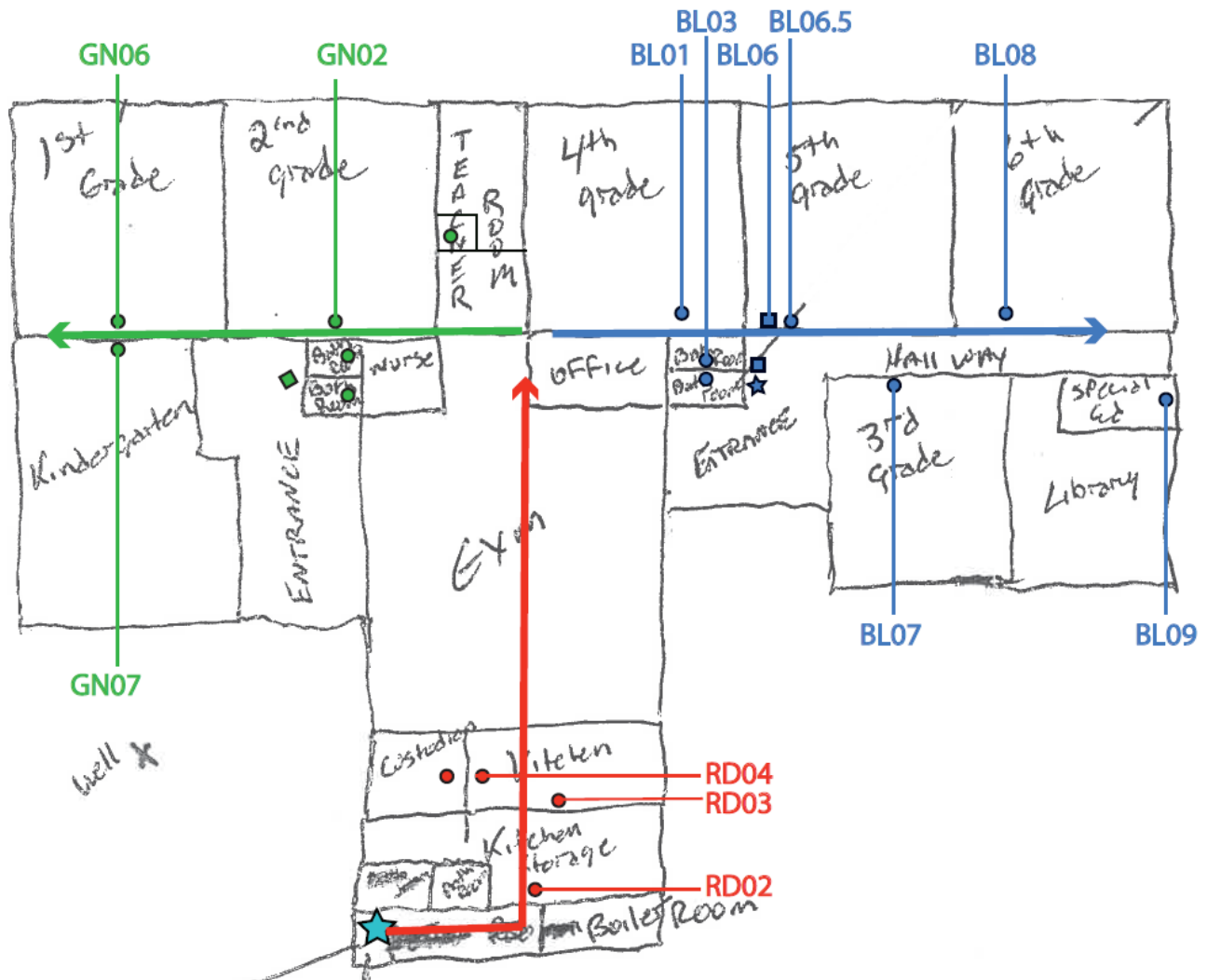
<sup>2</sup> Priority level is based on evaluation against the EPA and AAP levels and likelihood and frequency of use for consumption. See full report for more information.

**We recommend that BMS pursue the following permanent remediation approaches 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

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

- 1) disconnect water supply to priority water fountains and kitchen sinks/sprayers
- 2) disconnect water supply to priority sinks in locations where water is not needed for non-consumption uses
- 3) for priority sinks/showers/sprayers 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”), rather than location-specific policies
  - b. complement school-wide water consumption policy with age-appropriate signage at each priority outlet instructing against consumption and with educational outreach regarding the policy and its rationale



**Figure 1.** Floor plan showing locations of Bingham Memorial School outlets that exceeded the EPA action level or the American Academy of Pediatrics safety level (see also **Table 1**).