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Lead Concentration In Drinking Water

At

Tuckahoe UFSD

High School/Middle School
Cottle School

RegCom's Project Number: TUCK-1038-16-IH

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ABSTRACT

The Tuckahoe UFSD retained Regulatory Compliance to test the water fountains/sinks, in selected areas identified by the district, for lead content. The overall objective is to determine the lead content in drinking water in the districts buildings. The District has one (1) elementary school and one (1) high school/middle school.

A total of 64 samples were collected (including blanks) and analyzed for lead content.

The water fountains /sinks that were tested are in compliance with the NDWS, with the exception of several sinks and one water fountain, identified in the Cottle School, listed in the Results Section

Several remediation options are offered at the end of the report. They included setting up a daily "flushing" schedule, installing /replacing water filters or removal of water fountain/sinks.

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1.0 INTRODUCTION

The Tuckahoe UFSD retained Regulatory Compliance to test the water fountains/sinks, in selected areas identified by the district, for lead content. The overall objective is to determine the lead content in drinking water in the districts buildings. The District has one (1) elementary school and one (1) high school/middle school.

Lead is a toxic metal that can be harmful when ingested (or inhaled), and young children are particularly sensitive to the effects of lead. Lead can get into drinking water by being present in the source water, or by interaction of the water with plumbing materials containing lead (through corrosion). Common sources of lead in drinking water include: solder, fluxes, pipes and pipe-fittings, fixtures, and sediments. Thus, it is possible that different water outlets in a given building could have dissimilar concentrations of lead.

Lead in drinking water is regulated under the Safe Drinking Water Act (1974) as amended. The Lead Contamination Control Act (LCCA) amended the Safe Drinking Water Act and is aimed at identifying and reducing lead in drinking water in schools (and day care facilities). In April 1994, EPA prepared two guidance documents to assist municipalities in meeting the requirements of the LCCA.

Prior to the day of sampling, the custodians were responsible for having the outlets flushed and for assuring that water is not drawn from any water outlet overnight prior to sampling, this includes sprinkler systems.

2.0 SAMPLING METHODOLOGY

Samples were collected in accordance with the EPA testing protocols: *Lead in drinking Water in Schools and Non-residential Buildings*, EPA/812-b-94-002, April 1994. Sample analysis was of lead was completed by EPA method 200.9. The initial draw was collected after allowing the water to stand in the fountain/faucet for a minimum of 6 hours and the second draw was captured following a 30-second flush.

3.0 RESULTS

Table 1.0 Locations that are above the lead action level of 0.015 mg/L:

	Sample ID #	Location Cottle School	1st Draw (mg/L)	2nd Draw (mg/L)	Comments
1	19	CR 42	0.196	0.004	WF/Sink Combination – sampled WF
2	26	Kitchen Sink #3	0.030	0.003	Counting from left to right
3	28	Teacher's Lounge	0.021	0.001	Sink

Note: Regulatory limit for lead is 15 ppb or 0.015 mg/L; Regulatory limit for copper is 1300 ppb or 1.3 mg/L; BDL = below detectable limit; ppb = parts per billion; mg/l = milligrams per liter; NO = not operating; AU=Already used; WF = water fountain; L= lower; U=upper; CR=classroom; HW= hallway; BR=bathroom

4.0 OBSERVATIONS AND DISCUSSION

The sampling was completed and the results were compared to the EPA's National Drinking Water Standard (NDWS). The water fountains /sinks that were tested are in compliance with the NDWS, with the exception of several sinks and one water fountain, identified in the Cottle School, listed in the Results Section

One water fountain and two sinks of sinks failed on the first draw and obtained compliance after a 30-second flush. The District has several remedial options, (1) flush the water system in the building and retest the sinks; (2) set up a "flushing" schedule, so that the water fountain is flushed for >1 minute each morning prior to use (the process should be documented). "Flushing" involves opening suspect taps every morning before the facility opens and letting the water run to remove water that has been standing in the interior pipes and/or the outlets. The flushing time varies by the type of outlet being cleared. The degree to which flushing helps reduce lead levels can also vary depending upon the age and condition of the plumbing and the corrosiveness of the water; (3) install a water filter to control the lead concentration; (4) if the sink/water fountain already has a water filter, replace, flush and retest. The filters must be maintained and replaced in accordance with the manufactures requirements/instructions. The process should be documented.

5.0 CONCLUSION

The sampling was completed and the results were compared to the EPA's National Drinking Water Standard (NDWS). The water fountains /sinks that were tested are in compliance with the NDWS, with the exception of several sinks and one water fountain, identified in the Cottle School, listed in the Results Section

6.0 RECOMMENDATIONS

Sinks/water fountain that failed on the first draw and obtained compliance after a 30-second flush:

- Flush the water system in the building and retest the sink/water fountain or
- Set up a "flushing" schedule, so that the sinks are flushed for >1 minute each morning prior to use (the process should be documented) or
- Install a water filter to control the lead concentration and, maintain and replace the filter in accordance with the manufactures requirements/instructions. The process should be documented; or
- If the sink/water fountain already has a water filter, replace, flush and retest. The process should be documented.