WHITMAN

Creating Solutions. Exceeding Expectations.

LEAD IN DRINKING WATER SAMPLING

FOR

51 – DONALD STEWART SCHOOL
544 PENNSYLVANIA AVENUE
ELIZABETH, NJ 07201

ELIZABETH PUBLIC SCHOOLS
500 NORTH BROAD STREET
ELIZABETH, NJ 07208

PROJECT 24-05-58T

PERFORMED BY

WHITMAN

August 23, 2024

Environmental • Engineering • Energy • Waste Management • EH&S Compliance

LEAD IN DRINKING WATER SAMPLING
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1.0 PROJECT BACKGROUND

There are three ways that lead can contaminate drinking water in school facilities, the water source, the plumbing material, or the actual drinking water outlet fixture. Most sources of drinking water (e.g. ground and surface water) have no lead, or very low levels of lead (i.e., under 5 micrograms per liter [µg/l] or parts per billion [ppb]). Once the drinking water leaves the public water supply system or treatment plant, it comes into contact with piping and plumbing materials that may contain lead. Some lead may get into the water from the distribution system – the network of pipes that carry the water to homes, businesses, and schools in the community. Some communities have lead components in their distribution systems, such as lead joints in cast iron mains, service connections, pigtails, and goosenecks. Even though a public water supplier may deliver water that meets all Federal and State public health standards for lead, there may be lead in the drinking water because of the plumbing in the school facility. Interior plumbing, soldered joints, leaded brass fittings, and various drinking water outlets that contain lead materials are the primary contributors of lead in drinking water. It is also important to note that brass plumbing components contain lead. Since 1986, all plumbing materials must be “lead free”. Although there is an increased probability that a given plumbing component installed prior to 1986 could contain more lead than the newer components, the occurrence of lead in drinking water cannot be predicted solely based upon the age of the component or the school facility. The current law allows plumbing materials up to 0.25 percent lead to be labeled as “lead free”. However, prior to January 4, 2014, “lead free” allowed up to 8 percent lead content of the wetted surfaces of plumbing products including those labeled National Sanitation Foundation (NSF) certified. The best way to determine if a school might have elevated levels of lead in its drinking water is by testing the drinking water in that school. Testing facilitates an evaluation of the plumbing materials and helps target appropriate remedial action. It is a key step in understanding the problem, if there is one, and designing an appropriate response.

2.0 SAMPLING/SCREENING METHODOLOGY

2.1 Purpose

Lead in a water sample taken from an outlet can originate from the outlet fixture (e.g. the faucet, bubbler etc.), plumbing upstream of the outlet fixture (e.g. pipe, joints, valves, fittings etc.), or it can already be in the water that is entering the facility. Sample results are then compared to assist in determining the sources of lead contamination and the appropriate corrective measures. Prior to sampling, Whitman ensured that outlets deviating from normal usage were flushed 8-48 hours prior to sampling.

Initial first draw samples are taken from drinking water outlets and food preparation outlets (e.g., bubblers, kitchen faucets) in the facility. These samples determine the lead content of water sitting in water outlets that are used for drinking or cooking within the building(s).

2.2 NJDEP Limits

If initial first draw test results reveal lead concentrations greater than 15 µg/l (ppb) in a 250 mL sample for a given outlet, follow-up flush testing is required to determine if the lead contamination results are from the fixture or from interior plumbing.

3.0 LEAD IN DRINKING WATER SAMPLING RESULTS DISCUSSION

The summary of lead sample results is presented below. The sampling conducted complied with NJDEP protocol and all samples were submitted to Integrated Analytical Laboratories (NJDEP NELAP #14751) under a completed Chain of Custody Form.

Location	Sample ID #	Date	Time	Lead Result µg/L	NJDEP Lead Limit - µg/L	Corrective Action Taken
Room 135 Water Fountain	S1	7/23/2024	8:57 am	4.75	15	
Room 131 Water Fountain	S2	7/23/2024	8:58 am	2.63	15	
Room 134 Water Fountain	S3	7/23/2024	8:01 am	1.05	15	
Room 138 Water Fountain	S4	7/23/2024	8:12 am	**15.8**	15	**Removed from Service**
Room 142 Water Fountain	S5	7/23/2024	8:13 am	**23.5**	15	**Removed from Service**
Room 146 Water Fountain	S6	7/23/2024	8:16 am	6.40	15	
Room 145 Water Fountain	S7	7/23/2024	8:18 am	4.31	15	
Room 148 Water Fountain	S8	7/23/2024	8:22 am	8.44	15	
Room 147 Water Fountain	S9	7/23/2024	8:23 am	8.44	15	
Room 151 Water Fountain	S10	7/23/2024	8:25 am	2.00	15	
Room 152 Water Fountain	S11	7/23/2024	8:28 am	1.46	15	
Room 118 Water Fountain	S12	7/23/2024	8:28 am	6.48	15	
Room 119 Water Fountain	S13	7/23/2024	8:31 am	4.55	15	
Room 123 Water Fountain	S14	7/23/2024	8:35 am	**42.7**	15	**Removed from Service**
Room 122 Water Fountain	S15	7/23/2024	8:37 am	2.86	15	
Room 124 Water Fountain	S16	7/23/2024	8:38 am	9.25	15	
Room 125 Water Fountain	S17	7/23/2024	8:40 am	4.38	15	
Room 129 Water Fountain	S18	7/23/2024	8:44 am	5.68	15	

Location	Sample ID #	Date	Time	Lead Result µg/L	NJDEP Lead Limit - µg/L
Room 128 Water Fountain	S19	7/23/2024	8:45 am	3.81	15
Room 117 Water Fountain	S20	7/23/2024	8:48 am	<1.00	15
Nurse's Office Water Fountain	S21	7/23/2024	9:48 am	<1.00	15
Room 157 Lounge Sink	S22	7/23/2024	9:48 am	<1.00	15
Main Entrance Water Fountain Left	S23	7/23/2024	9:48 am	<1.00	15
Main Entrance Water Fountain Middle	S24	7/23/2024	9:48 am	<1.00	15
Main Entrance Water Fountain Right	S25	7/23/2024	9:48 am	<1.00	15
Kitchen Prep Sink Right	S26	7/23/2024	9:48 am	<1.00	15
Kitchen Prep Sink Wall	S27	7/23/2024	9:48 am	1.70	15
Field Blank	FB	7/23/2024	9:55 am	<1.00	15

4.0 CONCLUSIONS

All lead results were below the 15 µg/L New Jersey Action Level except the results listed in red.

The immediate remedial action required after an exceedance of the lead action level is to remove the water outlet from service. The District should review all the data results and plumbing profiles before deciding on remediation measures. Depending on the data and the plumbing profile some remediation measures may not be efficient at reducing the lead levels, so it is important to evaluate these.

Follow-up flush Samples are required if the Initial first-draw sample result is greater than the lead action level.

5.0 LIMITATIONS, EXCEPTIONS AND ASSUMPTIONS

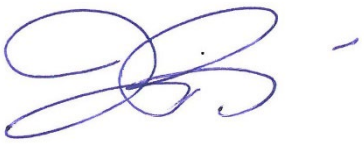
Opinions and recommendations presented in this report apply to site conditions and features as they existed at the time of Whitman's site visit, and those reasonably foreseeable. They cannot necessarily apply to conditions and features of which Whitman is unaware and has not had the opportunity to evaluate.

The conclusions presented in this report are professional opinions based solely upon Whitman's visual observations of accessible areas, testing data, and current regulatory requirements. These conclusions are intended exclusively for the purpose stated herein, at the sites indicated, and for the project indicated.

No expressed or implied representation or warranty is included or intended in our reports, except that our services were performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession.

Feel free to contact me at 732-390-5858 with any questions or if further clarification is needed.

Sincerely,



John Beaupre
Senior Vice President