



*Effective and Economical  
Environmental Solutions*

**Lead in Drinking Water Sampling  
Per amendments to N.J.A.C 6A:26 Educational Facilities  
Small World Montessori School  
308 Tom Hunter Road  
Fort Lee, NJ 07024**

**Karl Environmental Group Project #: 23-0938**

**December 29, 2023**

Prepared for:  
Mr. Ernest Szabo  
Building and Grounds Supervisor  
Millburn Township Public Schools  
2175 Lemoine Avenue  
Millburn, NJ 07024

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December 29, 2023

Mr. Ernest Szabo  
Building and Grounds Supervisor  
Millburn Township Public Schools  
2175 Lemoine Avenue  
Millburn, NJ 07024

**Re: Lead in Drinking Water Sampling  
Per amendments to N.J.A.C 6A:26 Educational Facilities  
Small World Montessori School  
308 Tom Hunter Road  
Fort Lee, NJ 07024  
Karl Environmental Group Project #: 23-0938**

Dear Mr. Szabo,

Thank you for selecting Karl Environmental Group (“Karl”) for this project. This report details the methods and findings of the lead in drinking water services as per New Jersey state regulations (amendments to N.J.A.C 6A:26 Educational Facilities) performed within the Small World Montessori School (the “Facilities”) on December 15, 2023.

## **1.0 PROJECT BACKGROUND**

Karl Environmental was contracted by Ernest Szabo (the “Client”) to perform lead in drinking water sampling to determine the lead content of drinking water from sources at one school building (the “Facilities”).

The purpose of lead in drinking water sampling is to determine if any sampled drinking water sources exhibit lead levels exceeding the Regulatory Action Level of 15 parts per billion (ppb). Drinking water collection points included any water sources from which a student, staff, or faculty may reasonably drink or from which the water may be used for cooking or beverage preparation, including, but not limited to, water coolers/bubblers, kitchen faucets, Nurse’s Office faucets, and Faculty/Staff lounges.



## **2.0 LEAD IN DRINKING WATER**

Lead is a toxic substance that can be harmful to human health. As compared to adults, children are more susceptible to the detrimental health effects of lead, as their nervous systems are not yet fully developed. Exposure to lead can occur in a variety of ways including through food, soil, deteriorating lead-based paint, and drinking water. Lead can leach into drinking water from plumbing materials such as pipes and solder, as well as brass plumbing fixtures. For this investigation, planning, preparation, methodology, sampling, and follow-up actions were conducted according to the technical guidance provided by New Jersey following the adoption of amendments to N.J.A.C. 6A:26: Educational Facilities, requiring the sampling of drinking water for lead in schools.

## **3.0 DRINKING WATER SAMPLING METHODOLOGY**

Karl collected drinking water samples from water outlets throughout the Facility. At each collection point, Karl Environmental filled a 250 milliliter (mL) wide-mouth high density polyethylene (HDPE) sample collection bottle from the selected water source. Samples were collected after the water in each building had not been used for at least 8 hours, but not more than 48 hours. Samples were preserved using concentrated Nitric Acid (HNO<sub>3</sub>). The initial sample at each collection point represents the first draw sample. The first draw sample is representative of the water from the end point of the water source (i.e., the bubbler or tap).

A field blank using lead-free laboratory reagent water was also collected at each Facility during the sampling event to rule out contamination of samples during the collection and transportation process. All samples were recorded under proper chain of custody and couriered to Suburban Testing Labs (Suburban), a New Jersey certified laboratory (NJ Lab ID #PA081) located in Reading, Pennsylvania for analysis by EPA method 200.8, NJ DOE.



During the initial sampling event, Karl Environmental Group collected the following number of samples at the Facility:

**Small World Montessori School**

Six (6) samples  
One (1) Field Blank

**4.0 DRINKING WATER ANALYSIS RESULTS**

The analytical lead in drinking water results for each first draw sample are listed in Table 1 below:

**Table 1: Small World Montessori School-December 15, 2023**

Sample I.D.	Type of Collection Point	Location	Lead Concentration (ppb)	Above Regulatory Action Level?
3L03802-01	Bottle Filler	Room 1 – Water Fountain	<1.00	No
3L03802-02	Tap	Room 1 – Kitchen Sink	<1.00	No
3L03802-03	Tap	Nurse Office	<1.00	No
3L03802-04	Fountain	Room 3 – Sink Fountain	<1.00	No
3L03802-05	Fountain	Room 2 – Sink Fountain	<1.00	No
3L03802-06	Tap	Room 1 – Hand Sink	<1.00	No

All laboratory analytical results were compared to the Regulatory Action Level of 15 ppb for lead. Analysis of lead in the first draw drinking water samples indicated that at the time of the sampling, none of the samples were above the Regulatory Action Level.

**5.0 CONCLUSIONS & RECOMMENDATIONS**

Following the lead in drinking water sampling event conducted on May 19, 2023, all outlets were below the Regulatory Action Level of 15 ppb. At the conclusion of the lead in drinking water services, Karl Environmental offers the following recommendations at this time:

- Continue to monitor lead in drinking water levels as part of a regular sampling and maintenance plan, as per New Jersey State regulations. Amendments will require district-wide sampling every three (3) years.
- In the interim, when drinking water outlets are replaced/added, or the plumbing is disturbed, sampling of the impacted outlets must be completed to determine if lead levels were affected.
- Implement an aerator cleaning maintenance program to prevent the build-up of debris behind the screen which may contribute to elevated lead levels.
- Enter all filter maintenance, aerator maintenance, plumbing repairs/changes and any other pertinent information into the Field Log Book for each Facility.



- Use only cold water for food and beverage preparation. Hot water is more likely to contribute to the corrosion of plumbing materials and therefore contain a greater level of contaminants from the plumbing system.

## 6.0 LIMITATIONS

This investigation focused on lead in drinking water only. No other heavy metals or additional contaminants were sampled for or analyzed. Lead concentrations can change as water continues to move through the water system. Each sample was a grab sample and represents lead concentrations only at the specific time of collection and may vary based on the water usage in the facility. Interpretation of these results is only valid if the facility is serviced by a municipal water supplier or water utility.

This lead sampling event was in response to the amendments to N.J.A.C. 6A:26, Educational Facilities dated July 13, 2016, which requires testing for lead in the drinking water of public and charter school districts every three (3) years.

## 7.0 CLOSING

Thank you for using Karl Environmental to assist you with this project. Please do not hesitate to call if you have any questions relating to this report or for any other environmental health and safety concerns.

Respectfully submitted,  
**Karl Environmental Group**

*Angela Meas*

Angela Meas  
Industrial Hygienist  
Karl Environmental Group  
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**Attachment A:**  
**Analytical Lab Results**



### Results Report

Order ID: 3L03802

Karl Environmental Group  
20 Lauck Road  
Mohnton, PA 19540

Project: 23-0938 Fort Lee BOE Montessori School

Attn: Varsha Swaminathan

Regulatory ID:

Sample Number: 3L03802-01  
Collector: Client

Site: Room 1 Water Fountain  
Collect Date: 12/15/2023 11:00 am

Sample ID:  
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 12/20/23 LAK 12/21/23 11:24 LAK

Sample Number: 3L03802-02  
Collector: Client

Site: Room 1 Kitchen Sink  
Collect Date: 12/15/2023 11:03 am

Sample ID:  
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 12/20/23 LAK 12/21/23 11:22 LAK

Sample Number: 3L03802-03  
Collector: Client

Site: Nurse's Office Tap  
Collect Date: 12/15/2023 11:10 am

Sample ID:  
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Metals

Lead 0.001 mg/L EPA 200.8 0.001 1 12/20/23 LAK 12/21/23 11:20 LAK

Sample Number: 3L03802-04  
Collector: Client

Site: Room 3 Sink Fountain  
Collect Date: 12/15/2023 11:12 am

Sample ID:  
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 12/20/23 LAK 12/21/23 11:12 LAK

Sample Number: 3L03802-05  
Collector: Client

Site: Room 2 Sink Fountain  
Collect Date: 12/15/2023 11:15 am

Sample ID:  
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 12/20/23 LAK 12/21/23 11:09 LAK

Report Generated On: 12/22/2023 1:09 pm  
STL\_Results Revision #2.1

3L03802  
Effective: 09/01/2022





Sample Number: 3L03802-06	Site: Room 1 Hand Wash Sink	Sample ID:
Collector: Client	Collect Date: 12/15/2023 11:20 am	Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
<u>Metals</u>									
Lead	0.003	mg/L	EPA 200.8	0.001	1	12/20/23	LAK	12/21/23 11:08	LAK

**Sample Receipt Conditions:**  
 · Sample(s) received with incomplete Chain of Custody form. At a minimum, Chain of Custody forms must contain a description of the sample location, matrix, the date and time of collection, the collector(s) initials or name, and the testing requested.

Units P/A = Present/Absent  
 Units P/F = Pass/Fail

The test *pH, Lab* is performed in the Laboratory as soon as possible. These results are not appropriate for compliance with NPDES, SDWA, or other regulatory programs that require analysis within 15 minutes of sample collection and should be considered for informational purposes only.

\**pH, Final* for ASTM leachate is performed by method SM 4500-H-B.

All results meet the requirements of STL's TNI (NELAC) Accredited Quality System unless otherwise noted. If your results contain any data qualifiers or comments, you should evaluate useability relative to your needs.

If collectors initials include "STL", samples have been collected in accordance with STL SOP SL0015.

All results reported on an As Received (Wet Weight) basis unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of STL.

Results are considered Preliminary unless report is signed by authorized representative of STL.

**Reviewed and Released By:**

Rebecca Schweitzer  
 Associate Project Manager

Report Generated On: 12/22/2023 1:09 pm      3L03802  
 STL\_Results Revision #2.1      Effective: 09/01/2022





Karl/K&A Job #: 23-0938  
 Date of Sample: 12/15/23  
 Project Client: Fort Lee BOE  
 Project Location: Montessori School  
 Project Manager: Angela Meas  
 Email: ameas@karlenv.com



3L03802  
Devin Kohler

48 hours  
 24 Hours  
 SAME DAY: \_\_\_\_\_ hours

250MLP HDPE + HNO3 + PH < 2 <sup>RLC</sup> 12/15/23

(1 EMPTY 250ML P HNO3 PROVIDED)  
**Karl Environmental Group**  
 20 Lauck Road  
 Mohnton, PA 19540  
 610-856-7700 (phone)  
 610-856-5040 (fax)

Sample ID	Date	Sample Description	Sample Location	Analysis Requested	Sample Vol.	
1	12/15/23	11:00 AM	Room 1 water fountain	Lead 200.8	250 mL	
2	↓	11:03 AM	Room 1 Kitchen sink	Lead 200.8	250 mL	
3		11:10 AM	Nurse's office tap	Lead 200.8	250 mL	
4		11:12 AM	Room 3 sink fountain	Lead 200.8	250 mL	
5		11:15 AM	Room 2 sink fountain	Lead 200.8	250 mL	
6		11:20 AM	Room 1 hand wash sink	Lead 200.8	250 mL	
7			Blank	Blank		

COC and labels missing  
 project name, sample type, and  
 matrix. mms 12/15/23

Suburban Testing Labs

Lab Date/Time: 12/15/23 1442 Lab Temp: 12.0°C <sup>116</sup>

Number of containers/coolers match number on COC?  YN  
 Sample labels and COC are free of discrepancies?  YN  
 All containers intact?  YN  
 Received in lab within acceptable temperature limits?  YN  
 40 mL VOA vials free of headspace?  YN

Relinquished by: \_\_\_\_\_  
 Received in lab by: Rebecca Cavine <sup>(w)</sup>

**IF OSHA**  
**SAMPLE:**

Sample ID	Name	Last four digits of SSN	Time On	Time Off	Flow Rate (L/M)

Sampled/Released by: Angela Meas <sup>(Signature)</sup> Date/Time: 12/15/23 on back of Chain of Custody:

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ on back of Chain of Custody:

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Client drop OFF.