*Effective and Economical*
*Environmental Solutions*

**Lead in Drinking Water Sampling**
**Per amendments to N.J.A.C 6A:26 Educational Facilities**
**Paterson Charter School District**
**Paterson, NJ 07503**
**Karl Environmental Group Project #: 24-0939**

December 18, 2024

Prepared for:

Edzevit Selman
Buildings and Grounds Coordinator
Paterson Charter School District
196 West Railway Avenue
Paterson, NJ 07503

Prepared by:

Karl Environmental Group
20 Lauck Road
Mohnton, PA 19540
Tel: (800) 527-5581
Fax: (610) 856-5040

20 Lauck Road
Mohnton, PA 19540
Tel: (800) 527-5581
Fax: (610) 856-5040
Web: www.karlenv.com

December 18, 2024
Edzevit Selman
Buildings and Grounds Coordinator
Paterson Charter School District
196 West Railway Avenue
Paterson, NJ 07503

**Re: Lead in Drinking Water Sampling**
**Per amendments to N.J.A.C 6A:26 Educational Facilities**
**Paterson Charter School District**
**Karl Environmental Group Project #: 24-0939**

Dear Mr. Selman:

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 Paterson Charter School District (the "Facility"), on November 11, 2024, and December 10, 2024.

## 1.0 PROJECT BACKGROUND

Karl Environmental was contacted by the Paterson Charter Board of Education (the "Client") to perform lead in drinking water sampling to determine the lead content of drinking water from sources throughout all the Facilities within the district.

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 solders, 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 Facilities. 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. 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 Eurofins Built Environment (iATL), a New Jersey certified laboratory located in Mount Laurel, New Jersey for analysis by EPA method 200.8, NJ DOE.

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

**Paterson Charter 8-12 Campus**
- Twenty-five (25) First Draw Samples
- One (1) field blank

**Paterson Charter K-1 Campus**
- Twelve (12) First Draw Samples
- One (1) field blank

**Paterson Charter 2-3 Campus**
- Thirteen (13) First Draw Samples
- One (1) field blank

**Paterson Charter 4-7 Campus**
- Seventeen (17) First Draw Samples
- One (1) field blank

## 4.0 DRINKING WATER ANALYSIS RESULTS

The analytical lead in drinking water results are listed in Table 1 below:

**Table 1: 8-12 Campus**

| Sample I.D. | Type of Collection Point/ Location | Lead Concentration (ppb) | Above Regulatory Action Level? |
|---|---|---|---|
| 812-1-KITCHEN | Kitchen Sink | <1.00 | No |
| 812-2-WF-IF-OS-STF | Outside Staff - Bubbler | <1.00 | No |
| 812-2-WF-IF-OS-STF-B | Outside Staff - Bottle Filler | <1.00 | No |
| 812-2-WF-IF-OS-STF-C | Outside Staff - Bubbler | <1.00 | No |
| 812-3-WC-STF | Staff Lunch Water Cool | <1.00 | No |
| 812-4-WF-OS-137 | Outside 137 - Bubbler | <1.00 | No |
| 812-4-WF-OS-137-D | Outside 137 - Fountain Bubbler | <1.00 | No |
| 812-5-WFGYM-130 | Gym Bubbler | <1.00 | No |
| 812-WFGYM-130-E | Gym Bottle Filler | <1.00 | No |
| 812-6-WC-NURSE | Nurse Water Cooler | <1.00 | No |
| 812-7-WC-C.OFFICE | Office Water Cooler | <1.00 | No |
| 812-8-WF-OS-225 | Outside 225 - Bubbler | <1.00 | No |
| 812-8-WF-OS-225-F | Outside 225 - Bottle Filler | <1.00 | No |
| 812-8-WF-OS-225-G | Outside 225 - Bubbler | <1.00 | No |
| 812-9-WF2F-OS-STF | Outside Staff 2nd Floor - Bubbler | <1.00 | No |
| 812-9-WF-2F-US-STF-H | Outside Staff 2nd Floor – Bottle Filler | <1.00 | No |
| 812-9-WF-2F-US-STF-I | Outside Staff 2nd Floor - Bubbler | <1.00 | No |
| 812-10-WC-05-360 | Water Cooler | <1.00 | No |
| 812-10-WC-05-350 | Water Cooler | <1.00 | No |
| 812-10-WC-05-J | Water Cooler | <1.00 | No |
| 812-10-WC-05-K | Water Cooler | <1.00 | No |
| 812-134-WC-3F-STF | Staff Room – 3rd Floor – Water Cooler | <1.00 | No |
| 812-12-WC-3F-OS-STF | Outside Staff – 3rd Floor | <1.00 | No |
| 812-12-WC-3F-OS-STF-L | Outside Staff – 3rd Floor | <1.00 | No |
| 812-12-WC-3F-OS-STF-M | Outside Staff – 3rd Floor | <1.00 | No |
| 8-12-BLANK | Field Blank | <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 event, none of the samples collected were above the Regulatory Action Level, denoted by orange highlight above.

**Table 2: K-1 Campus**

| Sample I.D. | Type of Collection Point/ Location | Lead Concentration (ppb) | Above Regulatory Action Level? |
|---|---|---|---|
| K1-1-WF-RM108 | Room 108 Water Cooler | <1.00 | No |
| K1-2-KITCHEN | Kitchen Sink | <1.00 | No |
| K1-3-CAFETERIA | Cafeteria Bubbler | <1.00 | No |
| K1-3-CAFETERIA-A | Cafeteria Bottle Filler | <1.00 | No |
| K1-4-WC-RM201 | Room 201 Water Cooler | <1.00 | No |
| K1-9-WC-RM204 | Room 204 Water Cooler | <1.00 | No |
| K1-8-WC-RM205 | Room 205 Water Cooler | <1.00 | No |
| K1-7-WC-RM206 | Room 206 Water Cooler | <1.00 | No |
| K1-6-WC-RM207 | Room 207 Water Cooler | <1.00 | No |
| K1-5-WC-STF | Staff Room Water Cooler | <1.00 | No |
| K1-11-WF-OS-NURSE | Outside Nurse – Bubbler | <1.00 | No |
| K1-11-WF-OS-NURSE-B | Outside Nurse – Bottle Filler | <1.00 | No |
| K1-BLANK | Field Blank | <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 event, none of the samples collected were above the Regulatory Action Level.

**Table 3: 2-3 Campus**

| Sample I.D. | Type of Collection Point/ Location | Lead Concentration (ppb) | Above Regulatory Action Level? |
|---|---|---|---|
| 2/3-1-KITCHENSINK | Kitchen Sink | <1.00 | No |
| 2/3-1-KITCHENWC | Kitchen Water Cooler | <1.00 | No |
| 2/3-3-WC-NURSE | Nurse Water Cooler | <1.00 | No |
| 2/3-4-WF-05-114 | Bubbler | <1.00 | No |
| 2/3-4-WF-05-114 | Bottle Filler | <1.00 | No |
| 2/3-6-05-125 | Outside 125 – Bubbler | <1.00 | No |
| 2/3-05-125-B | Outside 125 – Bottle Filler | <1.00 | No |
| 2/3-05-125-C | Outside 125 - Bubbler | 1.60 | No |
| 2/3-7-CAFETERIA | Cafeteria Bubbler | <1.00 | No |
| 2/3-7-CAFETERIA-D | Cafeteria Bubbler | <1.00 | No |
| 2/3-8-KITCHENSINK | Kitchen Sink | <1.00 | No |

| | | | |
|---|---|---|---|
| 2/3-5-WF-OS-130 | Outside 130 – Bubbler | <1.00 | No |
| 2/3-5-WF-OS-130-E | Outside 130 – Bottle Filler | <1.00 | No |
| K-7BLANK | Field Blank | <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 event, none of the samples collected were above the Regulatory Action Level.

**Table 1: 4-7 Campus**

| Sample I.D. | Type of Collection Point/ Location | Lead Concentration (ppb) | Above Regulatory Action Level? |
|---|---|---|---|
| 4/7-3-WC-NURSE | Nurse Water Cooler | <1.00 | No |
| 4/7-4-WF-OS-114-B | Outside 114 – Bubbler | <1.00 | No |
| 4/7-4-WF-OS-114-BF | Outside 114 – Bottle Filler | <1.00 | No |
| 4/7-1-WF-OS-102 | Teacher's Lounge Sink | <1.00 | No |
| 4/7-2-WC-STF-102 | Teacher's Lounge Water Cooler | <1.00 | No |
| 4/7-WF-102-BF | Outside 102 – Bottle Filler | <1.00 | No |
| 4/7-WF-102-B | Outside 102 – Bubbler | <1.00 | No |
| 4/7-8-WF-OS-GYM-B | Outside Gym – Bubbler | <1.00 | No |
| 4/7-8-WF-OS-GYM-BF | Outside Gym – Bottle Filler | <1.00 | No |
| 4/7-7-WF-OS-207-B | Outside 207 – Bubbler | <1.00 | No |
| 4/7-5-WF-OS-207-BF | Outside 207 – Bottle Filler | <1.00 | No |
| 4/7-5-WF-OS-231-B | Outside 231 – Bubbler | <1.00 | No |
| 4/7-WF-CAFÉ-BF | Café – Bottle Filler | <1.00 | No |
| 4/7—WF-CAFÉ-B | Café – Bubbler | <1.00 | No |
| 4/7-6-WC-SINK-LUNCH | Staff Lunch Sink | <1.00 | No |
| 4/7—6-WC-STF-LUNCH | Staff Lunch Water Cooler | <1.00 | No |
| 5/7-BLANK | Field Blank | <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 event, none of the samples collected were above the Regulatory Action Level.

## 5.0 CONCLUSIONS & RECOMMENDATIONS

Following the lead in drinking water sampling event conducted on November 11, 2024, and December 10, 2024, none of the outlets were above 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 should 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 pertinant 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 thefore 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 Group 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,

Angela Meas
Industrial Hygienist
Karl Environmental Group
Office: (610)-856-7700
Fax: (610)-856-5040
Cell: 484-345-9846
Email: ameas@karlenv.com