



*Effective and Economical  
Environmental Solutions*

**Lead in Drinking Water Sampling  
Per amendments to N.J.A.C 6A:26 Educational Facilities  
Green Brook Twp. School District  
132 Jefferson Avenue  
Green Brook, NJ 08812**

**Karl Environmental Group Project #: 22-0584**

Prepared for:  
Mr. David Paltjon  
Supervisor of Buildings & Grounds  
Green Brook Twp. School District  
132 Jefferson Avenue  
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June 13, 2022

Mr. David Paltjon  
Supervisor of Buildings & Grounds  
Green Brook Twp. School District  
132 Jefferson Avenue  
Green Brook, NJ 08812

**Re: Lead in Drinking Water Sampling  
Per amendments to N.J.A.C 6A:26 Educational Facilities  
Green Brook Twp. School District  
Karl Environmental Group Project #: 22-0584**

Dear Mr. Paltjon:

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 Green Brook Township School District (the "Facility"), on May 10<sup>th</sup> and May 18<sup>th</sup> of 2022.

## **1.0 PROJECT BACKGROUND**

Karl Environmental was contacted by the Mr. Paltjon of Green Brook Twp. School District (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. As per client request, point of entries into the facilities were also tested for lead concentrations.



## 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 Facilities and 1 field blank samples, one per each 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 each Facility:

### Green Brook Middle School

- Fourteen (14) First Draw Samples
- One (1) Field Blank

### Irene E. Feldkirchner Elementary School

- Fifteen (15) First Draw Samples
- One (1) Field Blank



#### 4.0 DRINKING WATER ANALYSIS RESULTS

The analytical lead in drinking water results are listed in Tables below:

**Table 1: Green Brook Middle School: May 10, 2022**

Sample I.D.	Type of Collection Point	Lead Concentration (ppb)	Above Regulatory Action Level?
GBMS-BLANK	Blank	< 1.00	No
GBMS-KIT-FP-SK-01	Sink	1.47	No
GBMS-KIT-FP-02	Kit. FP Kettle Pot Filler	5.71	No
GBMS-KIT-IM-03	Ice Machine across from Kitchen	< 1.00	No
GBMS-WC-CAFE-04	Cafeteria Water Cooler	< 1.00	No
GBMS-WC-Hall 220-05	Hallway outside Faculty Lunchroom	< 1.00	No
GBMS-WCL-Cafe Hall-06	Across from Rm 213	< 1.00	No
GBMS-WCL-Cafe Hall-07	Removed -not sampled	NA	NA
GBMS-WCR-112 Hall-08	Across from Rm 112	< 1.00	No
GBMS-WCL-112 Hall-09	Removed -not sampled	NA	NA
GBMS-WCR-Media Hall-10	Across from Media Center	< 1.00	No
GBMS-WCL-Media Hall-11	Removed -not sampled	NA	NA
GBMS-WCR-101Hall-12	Removed -not sampled	NA	NA
GBMS-WCL-101Hall-13	Removed -not sampled	NA	NA
GBMS-WCR-301Hall-14	Removed -not sampled	NA	NA
GBMS-WCR-301Hall-15	Removed -not sampled	NA	NA
GBMS-WCL-Sink1MainOffice	Main Office	< 1.00	No
GBMS-WCR-300 Hall-16	Across from Rm 300	< 1.00	No
GBMS-WCR-300 Hall-17	Removed -not sampled	NA	NA
GBMS-WCR-321 Hall-18	Across from 321	< 1.00	No
GBMS-WCR-321 Hall-19	Removed -not sampled	NA	NA
GBMS-WC-B-LKRM-20	Removed -not sampled	NA	NA
GBMS-FAU-OLR-21	Removed -not sampled	NA	NA
GBMS-WC-G-LKRM-22	Removed -not sampled	NA	NA
GBMS-KIT-FP-03	Pot Filler Rear Wall	< 1.00	No
GBMS-BOARDOFFICE	Sink 1	< 1.00	No
GBMS-KIT-FPREARWALL	Sink	2.38	No

Not sampled

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, all results were below the action level of 15 ppb for lead.



**Table 1: Irene E. Feldkirchner Elementary School: May 18, 2022**

Sample I.D.	Type of Collection Point	Lead Concentration (ppb)	Above Regulatory Action Level?
FES-BLANK	Blank	<1.00	No
FES-KIT-REAR-01	Kit. R sink - rear wall	<1.00	No
FES KIT-FP-02	Kitchen middle sink - fp	<1.00	No
FES KIT-IM-03	Out of service	NA	NA
FES-BF-BOILER HALL-04	Hallway outside boiler room	<1.00	No
FES-WC-BOILER HALL-05	Out of service	NA	NA
FES-BF-MDF HALL-06	Out of service	NA	NA
FES-WC-MDF HALL-07	Out of service	NA	NA
FES-CS-RM115-08	Sink bubbler	<1.00	No
FES-CS-RM114-09	Sink bubbler	<1.00	No
FES-CS-RM13-10	Sink bubbler	<1.00	No
FES-CS-RM112-11	Sink bubbler	<1.00	No
FES-CS-RM111-12	Sink bubbler	<1.00	No
FES-CS-RM110-13	Sink bubbler	<1.00	No
FES-BF-205 HALL-14	Out of service	NA	NA
FES-WC-205 HALL-15	Out of service	NA	NA
FES-BF-RM121 HALL-16	Hallway near rm 121/201	<1.00	No
FES-CS-RM301-20	Sink bubbler	<1.00	No
FES-FAC-MEDIA-21	Media center office	7.78	No
FES-TL-FACULTY-22	Faculty work room	<1.00	No
FES-KIT-REAR-02	Rear sink side	<1.00	No
FES-KIT-FP-03	Kit middle west	2.65	No

Not sampled

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, all results were below the action level of 15 ppb for lead.



## 5.0 CONCLUSIONS & RECOMMENDATIONS

Following the lead in drinking water sampling event conducted on May 10<sup>th</sup> and May 18<sup>th</sup> of 2022, no outlets were above the regulated levels of 15 ppb.

In the event outlets are found to contain levels above the regulated guidelines, Karl Environmental offers the following recommendations:

- The District should perform second draw flush sampling of each outlet that exceeded the regulatory action level of 15 ppb to determine the source of lead.
- Each outlet above the regulatory action level of 15 ppb should be taken out of service until results under the action level are achieved or placing a “Hand Wash Only” sign above each failing outlet.
- 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 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 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,

A handwritten signature in black ink, appearing to be "DH".

**Karl Environmental Group**

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**Attachment A:**  
**Analytical Lab Results**