# *Effective and Economical Environmental Solutions*

Lead-in-Drinking Water Sampling
Heights Elementary School
114 Seminole Ave
Oakland, NJ 07436

**Karl Environmental Group Project #: 21-0953**

**December 10, 2021**

Prepared for:
Mr. Joe Tumminia
Supervisor of Buildings & Grounds
Oakland Public Schools
315 Ramapo Valley Road
Oakland, NJ 07436

Prepared by:
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December 10, 2021

Mr. Joe Tumminia
Supervisor of Buildings & Grounds
Oakland Public Schools
315 Ramapo Valley Road
Oakland, NJ 07436

**Re: Limited Lead-in-Drinking Water Sampling**
**Oakland Public Schools**
**Heights Elementary School**

**Karl Environmental Group Project #: 21-0953**

Dear Mr. Tumminia,

Thank you for selecting Karl Environmental Group ("Karl Environmental") 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) for the new bottle filler stations performed at Heights Elementary School (the "Facility"), on November 22, 2021.

## 1.0 PROJECT BACKGROUND

Karl Environmental was contacted by Mr. Joe Tumminia of the Oakland Public Schools District (the "Client") to conduct lead in drinking water sampling to determine the lead content of drinking water from the newly installed bottle filler stations only throughout the Facility. 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).

## 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, and sampling 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 Environmental collected drinking water samples from bottle filler stations throughout the Dogwood Hill School 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 ($HNO_3$). 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 sampling event on November 22, 2021, Karl Environmental collected the following number of samples at the facility:

**Heights Elementary School**

- Three (3) First Draw Samples
- One (1) Field Blank

## 4.0 DRINKING WATER ANALYSIS RESULTS

The analytical lead in drinking water results for each sample collected are listed below:

**Table 1: Heights Elementary School – November 22, 2021**

| Sample I.D. | Type of Collection Point | Lead Concentration (ppb) | Above Regulatory Action Level? |
|---|---|---|---|
| HES-BLANK | Blank | 2.78 | No |
| HES-5thGRADEHALL-BF | Bottle Filler | <1.00 | No |
| HES-RM9-HALL-BF | Bottle Filler | <1.00 | No |
| HES-GYM-BF | Bottle Filler | <1.00 | No |

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 (0) of the bottle filler outlets at the Heights Elementary School exceeded the Action Level.

## 5.0 CONCLUSIONS & RECOMMENDATIONS

Karl Environmental Group collected first draw samples from newly installed bottle fillers throughout the Heights Elementary School of the Oakland Public Schools District. First draw sample results indicated that of the three (3) samples collected, none (0) of the samples exhibited lead levels 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.

- Enter all filter/aerator maintenance, plumbing repairs/changes and any other pertinent information into the Field Logbook for each Facility.

## 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. The sampling was limited to the newly installed bottle filler stations as per Mr. Joe Tumminia's request and does not constitute a full lead in water analysis for all of the water outlet locations throughout the Facility.

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 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***

Kyle Acker
Environmental Consultant
Email: kacker@karlenv.com
Office: 610-856-7700
Fax: 610-856-5040

Attachments:
A – Laboratory Analytical Report

**Attachment A:**

**Laboratory Analytical Report**

SUBURBAN TESTING LABS

# Results Report

Order ID: 1K04668

| | |
|---|---|
| Karl Environmental Group<br>20 Lauck Road<br>Mohnton, PA 19540 | Project: Heights Elementary School<br>114 Seminole Ave<br>Oakland, NJ 07836 |
| Attn: Aja Slater | Regulatory ID: |

Sample Number: 1K04668-01 | Site: HES-Gym-BF | Sample ID:
Collector: KMA | Collect Date: 11/22/2021 5:07 am | Sample Type: Grab

| Department ! Test ! Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|---|---|---|---|---|---|---|---|---|---|
| Metals | | | | | | | | | |
| Lead | < 1.00 | pg/L | EPA 200.8 | 1.00 | 1 | 11/26/21 | RPV | 12/04/21 17:32 | MKR |

Sample Number: 1K04668-02 | Site: HES-RM9-Hall-BF | Sample ID:
Collector: KMA | Collect Date: 11/22/2021 5:10 am | Sample Type: Grab

| Department ! Test ! Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|---|---|---|---|---|---|---|---|---|---|
| Metals | | | | | | | | | |
| Lead | < 1.00 | pg/L | EPA 200.8 | 1.00 | 1 | 11/26/21 | RPV | 12/04/21 17:54 | MKR |

Sample Number: 1K04668-03 | Site: HES-5thGradeHall-BF | Sample ID:
Collector: KMA | Collect Date: 11/22/2021 5:15 am | Sample Type: Grab

| Department ! Test ! Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|---|---|---|---|---|---|---|---|---|---|
| Metals | | | | | | | | | |
| Lead | < 1.00 | pg/L | EPA 200.8 | 1.00 | 1 | 11/26/21 | RPV | 12/04/21 17:48 | MKR |

Sample Number: 1K04668-04 | Site: HES-Blank | Sample ID:
Collector: KMA | Collect Date: 11/22/2021 5:05 am | Sample Type: Grab

| Department ! Test ! Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|---|---|---|---|---|---|---|---|---|---|
| Metals | | | | | | | | | |
| Lead | 2.78 | pg/L | EPA 200.8 | 1.00 | 1 | 11/26/21 | RPV | 12/04/21 17:33 | MKR |

**Sample Receipt Conditions:**

All samples met the sample receipt requirements for the relevant analyses.

Report Generated On: 12/06/2021 10:17 am 1K04668
STL_Results Revision #1.9 Effective: 04/16/2020

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.



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

**Reviewed and Released By:**
Ryan F Knerr
Project Manager II

SUBURBAN TESTING LABS

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1K04668
Ryan F Knerr

TAT(Check One): ☒Standard ☐24hr ☐48hr ☐72hr ☐Other____
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)
Order ID:_____

Client Name: Karl Environmental Group
Address: 20 Lauck Road
Mohnton, PA 19540
Contact Name: Kyle Acker
Phone: 610-856-7700
Fax: 610-856-5040
Email: kacker@karlenv.com

Site: Heights Elementary School
Address: 114 Seminole Ave
Oakland, NJ 07436
Payment / P.O. Info: 21-0953

Comments:
Lead 200.8 NJ DOE, first draw new BF Stations

| SWTL Sample Number | Sample Description / Site ID: (4) 250mL P w/HNO3. pH<2 11/22/21 MRW | Date Sampled | Time Sampled | Samplers Initials | Test(s) Requested: | Bottle Quantity | See Codes Below: Matrix | Sample Type | Bottle Type | Preservative | Comments / Field Data: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | HES-Gym-BF | 11-22-21 | 0807 | MRW | Lead 200.8 NJ DOE | 1 | PW | G | P | H | |
| | HES-RM9-Hall-BF | 11-22-21 | 0810 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| | HES-5th Grade Hall-BF | 11-22-21 | 0815 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| * | HES-Blank | 11-22-21 | 0805 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| | | | | | | | | | | | |
| | *Blank Filled with DI at SR DI TAP | | | | | | | | | | |
| | by Karl tech. PM Alerted. 11/22/21 MRW | | | | | | | | | | |
| | | | | | | | | | | | |

| | | | |
|---|---|---|---|
| Relinquished By: (4) | Date: 11.22.21 | | |
| | Time: 0810 | | |
| Received By: | Date: | Temp °C: ____ | |
| | Time: | Acceptable: Y / N | |
| Relinquished By: | Date: | Temp °C: ____ | |
| | Time: | Acceptable: Y / N | |
| Received in Lab By: MRW (Y) | Date: 11/22/21 | Temp °C: 22.1 | |
| | Time: 810 | Acceptable: (Y) / N | |

**Sample Conditions**
- Submitted with COC? (Y) / N
- Number of containers match number on COC? (Y) N
- All containers in tact? (Y) N
- Tests within holding times (Y) / N
- 40 mL VOA vials free of headspace? N/A / N

**Matrix Key**
NPW = Non-Potable Water
Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg)
PW = Potable Water (not for SDWA compliance)
SDWA = Safe Drinking Water Act Potable Sample

**Sample Type Key**
G = Grab
8HC = 8 Hr. Composite
24HC = 24 Hr. Composite

**SDWA Sample Types**
D=Distribution
E=Entry Point
R=Raw
C=Check
S=Special
M=Maximum Residence

**Bottle Type Key**
P = Plastic
G = Glass
O = Other

**Preservative Key**
N = Sodium Thiosulfate
A = Ascorbic Acid
H = $HNO_3$
C = HCl
S = $H_2SO_4$
OH = NaOH
O = Other
NA = None Required

**Reporting Options**
☐SDWA Reporting
PWSID: _____
☐Fax
☒Email kacker@karlenv.com
☐Other_____
☐Return a copy of this form with Report

Signing this form indicates your agreement with SWTL's Standard Terms and Conditions unless otherwise specified in writing. SLF059 Rev. 1.4 Effective November 12, 2014
Shaded areas are for SWTL use only.