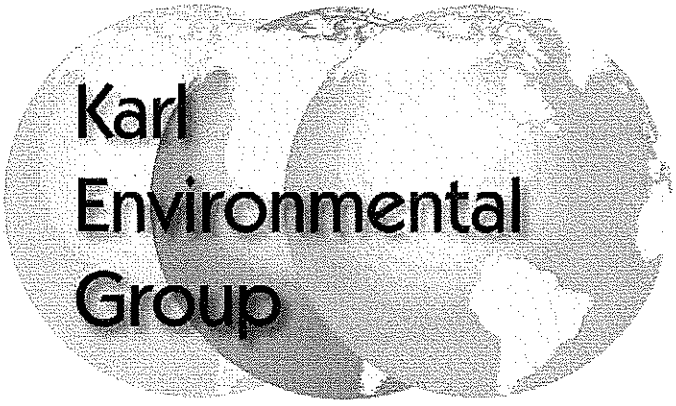

Effective and Economical
Environmental Solutions

Lead-in-Drinking Water Sampling
Northern Hills Academy
10 Gail Court, Sparta, New Jersey, 07871
Karl Environmental Group Project #: 21-0618

May 19, 2021

Prepared for:
Ms. Jackie Klinger
Administrative Assistant
Sussex County Educational Services Commission
10 Gail Court, Sparta, New Jersey, 07871

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

Karl Environmental Group

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

May 19, 2021

Ms. Jackie Klinger
Administrative Assistant
Sussex County Educational Services Commission
10 Gail Court, Sparta, New Jersey, 07871

Re: Lead-in-Drinking Water Sampling
Northern Hills Academy
10 Gail Court, Sparta, New Jersey, 07871
Karl Environmental Group Project #: 21-0618

Dear Ms. Klinger:

Thank you for selecting Karl Environmental Group ("Karl") for this project. This report details the methods and findings of the lead-in-drinking water sampling services, as per New Jersey State Regulations (amendments to N.J.A.C 6A:26 Educational Facilities) performed at the Northern Hills Academy (the "Facility"), on May 13, 2021.

1.0 PROJECT BACKGROUND

Karl Environmental was contacted by the Client to conduct lead-in-drinking water sampling as per recent amendments to N.J.A.C 6A:26. The purpose of lead-in-drinking water sampling is to determine if any drinking water sources exhibit lead levels exceeding the Regulatory Action Level of 15.0 parts per billion (ppb). Drinking water collection points include 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.

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 Environmental collected drinking water samples at the Facility on May 13, 2021, beginning at 7:30 A.M. 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 from each collection point 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 sink tap).

A field blank using lead-free laboratory reagent water was also collected at the 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, a New Jersey certified laboratory (NJ Lab ID #PA081) located in Reading, Pennsylvania for analysis by EPA method 200.8.

4.0 DRINKING WATER ANALYSIS RESULTS

The analytical lead-in-drinking water results for the samples collected on May 13, 2021 are listed in Table 1, below:

Table 1: Analytical Lead Results for Drinking Water Samples

Sample I.D.	Location	Type of Collection Point	Lead Concentration (ppb)	Above Action Level?
NHA-BLANK	Field Blank	N/A	<1.00	No
NHA-SK-103	Room 103	Sink	<1.00	No
NHA-SK-105	Room 105	Sink	<1.00	No
NHA-SK-102	Room 102	Sink	<1.00	No
NHA-WF-107A	Hallway by Room 107A	Water Fountain	<1.00	No
NHA-SK-108	Room 108	Sink	<1.00	No
NHA-SK-111	Room 111	Sink	<1.00	No
NHA-SK-116C	Room 116C	Sink	<1.00	No
NHA-SK-116A	Room 116A	Sink	<1.00	No
NHA-SK-120	Room 120	Sink	<1.00	No

5.0 CONCLUSIONS & RECOMMENDATIONS

Karl Environmental collected a total of ten (10) water samples from collection points at the Facility. None of the first draw samples revealed lead levels above the action level 15 ppb at the Facility.

Based on the findings of the lead in drinking water screening the following recommendations are offered at this time:

- Continue to monitor lead in drinking water levels every three (3) years per N.J.A.C. 6A:26: Educational Facilities, and as part of a regular sampling and maintenance plan.

- 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 a maintenance log book for the 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.

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

Jake Edwards
Industrial Hygienist
jedwards@karlenv.com
610-856-7700 (Office)
610-856-5040 (Fax)

Attachments:
A – Laboratory Analytical Report

Attachment A

Laboratory Analytical Results

SUBURBAN TESTING LABS

Results Report

Order ID: 1E03111

Karl Environmental Group
20 Lauck Road
Mohnton, PA 19540

Project: 21-0618 - Northern Hills Academy

Attn: Jake Edwards

Regulatory ID:

Sample Number: 1E03111-01 | Site: NHA-BLANK | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:40 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:02	MKR

Sample Number: 1E03111-02 | Site: NHA-SK-103 | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:41 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:08	MKR

Sample Number: 1E03111-03 | Site: NHA-SK-105 | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:43 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:14	MKR

Sample Number: 1E03111-04 | Site: NHA-SK-102 | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:45 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:16	MKR

Sample Number: 1E03111-05 | Site: NHA-WF-107A | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:47 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:18	MKR

Report Generated On: 05/18/2021 3:12 pm 1E03111
STL_Results Revision #1.9 Effective: 04/16/2020

Sample Number: 1E03111-06 | Site: NHA-SK-108 | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:49 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:20	MKR

Sample Number: 1E03111-07 | Site: NHA-SK-111 | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:50 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/17/21 13:16	RJS

Sample Number: 1E03111-08 | Site: NHA-SK-116C | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:53 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:22	MKR

Sample Number: 1E03111-09 | Site: NHA-SK-116A | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:54 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:26	MKR

Sample Number: 1E03111-10 | Site: NHA-SK-120 | Sample ID:
Collector: JE | Collect Date: 05/13/2021 7:57 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals									
Lead	< 1.00	µg/L	EPA 200.8	1.00	1	05/14/21	MKR	05/16/21 18:28	MKR

Sample Receipt Conditions:
All samples met the sample receipt requirements for the relevant analyses.

Report Generated On: 05/18/2021 3:12 pm 1E03111
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.

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:
Ryan F Knerr
Project Manager II

SUBURBAN TESTING LABS
1037F MacArthur Road, Reading, PA 19605 Phone: 610-375-TEST Fax: 610-375-4090 suburbantestinglabs.com
PA DEP # 06-00208
NJDEP# PA081

SUBURBAN TESTING LABS

61

1E03111
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: 21-0618

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

Address: Northern Hills Academy
Payment / P.O. Info:

Comments:
NJ DOE Lead in Drinking Water Samples - First Draw - PG1

SWTL Sample Number	(8) 250mL HDPE + HNO_3 pH<2 ZP 5-13-21 Sample Description / Site ID:	Date Sampled	Time Sampled	Samplers Initials	Test(s) Requested:	Bottle Quantity	See Codes Below: Matrix	Sample Type	Bottle Type	Preservative	Comments / Field Data:
	NHA-BLANK	5/13/21	740	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-SK-103	5/13/21	741	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-SK-105	5/13/21	743	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-SK-102	5/13/21	745	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-WF-107A	5/13/21	747	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-SK-108	5/13/21	749	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-SK-111	5/13/21	750	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-SK-116C	5/13/21	753	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	

Relinquished By:	Date: 5/13/21 Time: 1075		
Received By:	Date: Time:	Temp °C: ____ Acceptable: Y / N	
Relinquished By:	Date: Time:	Temp °C: ____ Acceptable: Y / N	
Received In Lab By: (8)	Date: 5-13-21 Time: 1035	Temp °C: 11.9 Acceptable: Y / N TLC	

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.

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? Y / 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
☐ Other____
☐ Return a copy of this form with Report

SUBURBAN TESTING LABS

6

1E03111
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: 21-0618

Client Name: Karl Environmental Group

Address: 20 Lauck Road
Mohnton, PA 19540

Phone: 610-856-7700
Fax: 610-856-5040

Contact Name: Jake Edwards

Email: jedwards@karlenv.com

Address: Northern Hills Academy

Payment / P.O. Info: ____

Comments:

NJ DOE Lead in Drinking Water Samples - First Draw - PG2

SWTL Sample Number	Sample Description / Site ID: (2) 250 mL HDPE + HNO_3 pH<2.0 JP 5-13-21	Date Sampled	Time Sampled	Samplers Initials	Test(s) Requested:	Bottle Quantity	See Codes Below: Matrix	Sample Type	Bottle Type	Preservative	Comments / Field Data:
	NHA-SK-116A	5/13/21	754	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	
	NHA-SK-120	5/13/21	757	JE	LEAD, 200.8 NJ DOE	1	PW	G	P	H	

Relinquished By:	Date: 5/13/21 Time: 1035	
Received By:	Date: Time:	Temp °C: ____ Acceptable: Y / N
Relinquished By:	Date: Time:	Temp °C: ____ Acceptable: Y / N
Received in Lab By: JP (2)	Date: 5-13-21 Time: 1035	Temp °C: 11.9 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? Y / 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
4HC = 4 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
O/F = NaOH
O = Other
NA = None Required

Reporting Options
- ☐ SDWA Reporting
- PWSID: ____
- ☐ Fax
- ☒ Email
- ☐ 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.