



April 30, 2018

Mr. Ed Buzzelli
Hanover County Public Schools
Operations
200 Berkley Street
Ashland, VA 23005

Subject: Lead in Drinking Water Sampling Results – Resampling Event
Battlefield Park Elementary School

Dear Ed,

EEE Consulting Inc. (3e) sampled twenty-six (26) high priority drinking water sources at the Battlefield Park Elementary School located at 5501 Mechanicsville Turnpike in Mechanicsville, Virginia on November 7, 2017. High priority drinking water sources included the water main entering the building, drinking water fountains/coolers and bubbler drinking fountains. Two (2) samples collected from the drinking water sources contained lead concentrations above the Action Limit of 20 parts per billion (ppb) of lead recommended by the EPA Revised Technical Guidance, “3Ts for Reducing Lead in Drinking Water in Schools”. Samples collected from remaining drinking water sources at Battlefield Park Elementary School contained lead concentrations below the Action Limit. Sample results depicted in red contained concentrations above the Action Limit of 20 ppb lead.

Elevated Lead Results - November 7, 2017:

Sample ID	Location	Lead Result
BPES-DF-04	Elkay Drinking Fountain in hallway outside of Library	23.8 ppb
BPES-DF-22	Bubbler fountain in Room 216	44.0 ppb

3e recommended these sources be resampled with an initial draw sample (denoted as A) followed by a 30-second flush sample (denoted as B) to determine whether lead is being contributed from the outlet or the internal plumbing of the building. The samples were submitted to Environmental Hazards Services, LLC in Chesterfield, Virginia for analysis of lead content. The units were taken out of service until follow-up testing was completed on February 2, 2018.

Resample Results - February 2, 2018:

Sample ID	Location	Lead Result
BPES-DF-04A	Elkay Drinking Fountain in hallway outside of Library	259 ppb
BPES-DF-04B	Elkay Drinking Fountain in hallway outside of Library	973 ppb
BPES-DF-22A	Bubbler fountain in Room 216	11,200 ppb
BPES-DF-22B	Bubbler fountain in Room 216	49.0 ppb

The laboratory results indicated lead concentrations from resamples BPES-DF-04A, BPES-DF-04B, BPES-DF-22A, and BPES-DF-22B were above the EPA Action Limit of 20 ppb. 3e determined that the higher concentration of the second draw sample (BPES-DF-04B) is likely due to leaching of lead into the water as it sits in the chiller within the water fountain. In addition, 3e determined that the higher concentration of the first draw sample (BPES-DF-22A) and the elevated concentration of the second draw sample (BPES-DF-22B) are likely due to leaching of lead into the water as it sits in the bubbler and bubbler valves. Documentation for the resamples is included on the attached field sampling documentation form and sample location sites are represented on the attached building diagram.

In lieu of lead contamination being localized and limited to two (2) units, **3e** recommends replacing these sources with new fountains, as it may be the most practical solution. The EPA worked with the plumbing industry and National Sanitation Foundation (NSF) International to develop an industry standard that is designed to minimize the amounts of lead being leached from these products. Hanover County Public Schools should ensure that any replacement fountains be in compliance with NSF Standard 61, Section 9 before purchasing or installing a new endpoint device.

We appreciate this opportunity to provide our environmental consulting services on this project and look forward to continued services. Please feel free to contact me at (804) 442-3330 ext. 225 with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Carroll H. Ellis, III". The signature is written in a cursive style and is positioned above the typed name.

Carroll H. Ellis, III
Environmental Scientist

Attachments

Sample Recordkeeping Form										
School: Battlefield Park Elementary School										
Sample Collector	Sample ID #	Sample Date	Sample Time	Sample Type (1st Draw or Flush)	Outlet Type	Manufacturer/Model	Serial #	Laboratory	Bottle Lot #	Lead Result (ppb)
1	ES	BPES-S-01	11/07/17	11:40 AM	Initial	Kitchen Prep Sink		EHS	44081705	<1.00
2	ES	BPES-DF-01	11/07/17	11:43 AM	Initial	Drinking Fountain	Halsley-Taylor	990714881	44081705	<1.00
3	ES	BPES-DF-02	11/07/17	11:45 AM	Initial	Drinking Fountain	Oasis PLF14M	0032513636	44081705	1.25
4	ES	BPES-DF-03	11/07/17	11:47 AM	Initial	Drinking Fountain	Oasis P14M-H300	7935001235	44081705	<1.00
5	ES	BPES-DF-04	11/07/17	11:50 AM	Initial	Drinking Fountain	Elkay EH-FS-8	620324565	44081705	23.8
6	ES	BPES-DF-05	11/07/17	11:53 AM	Initial	Drinking Fountain	Halsley-Taylor HAC8-FSCQ-1C	160517115	44081705	<1.00
7	ES	BPES-DF-06	11/07/17	11:57 AM	Initial	Bubbler Fountain		EHS	44081705	<1.00
8	ES	BPES-DF-07	11/07/17	11:54 AM	Initial	Bubbler Fountain		EHS	44081705	<1.00
9	ES	BPES-DF-09	11/07/17	12:03 PM	Initial	Bubbler Fountain		EHS	44081705	1.18
10	ES	BPES-DF-08	11/07/17	12:01 PM	Initial	Bubbler Fountain		EHS	44081705	2.00
11	ES	BPES-DF-10	11/07/17	12:05 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
12	ES	BPES-DF-11	11/07/17	12:08 PM	Initial	Drinking Fountain	Elkay EBFATDLDA	980315785	44081705	<1.00
13	ES	BPES-DF-12	11/07/17	12:08 PM	Initial	Drinking Fountain	Elkay EBFAJ28-1B	980414473	44081705	<1.00
14	ES	BPES-DF-13	11/07/17	12:10 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
15	ES	BPES-DF-14	11/07/17	12:12 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
16	ES	BPES-DF-15	11/07/17	12:13 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
17	ES	BPES-DF-17	11/07/17	12:15 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
18	ES	BPES-DF-16	11/07/17	12:14 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
19	ES	BPES-DF-18	11/07/17	12:18 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
20	ES	BPES-DF-19	11/07/17	12:20 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
21	ES	BPES-DF-20	11/07/17	12:21 PM	Initial	Drinking Fountain	Sunroc NSW14	95669361	44081705	<1.00
22	ES	BPES-DF-21	11/07/17	12:23 PM	Initial	Bubbler Fountain		EHS	44081705	<1.00
23	ES	BPES-DF-22	11/07/17	12:24 PM	Initial	Bubbler Fountain		EHS	44081705	44.0



Environmental Hazards Services, L.L.C.
 7469 Whitepine Rd
 Richmond, VA 23237
 Telephone: 800.347.4010

Lead in Drinking Water Analysis Report

Client: EEE Consulting Inc.
 8525 Bell Creek Rd.
 Mechanicsville, VA 23116

Report Number: 18-02-00431
 Received Date: 02/02/2018
 Reported Date: 02/19/2018
 Sampled By: Carroll H Ellis III
 Tech Certification #:

Project/Test Address: Battlefield Park Elementary School; Mechanicsville, VA

Client Number:
 48-5796

Laboratory Results

Fax Number:
 804-442-3334

Lab Sample Number	Client Sample ID	Collection Date	Collection Location	Concentration ug/L (ppb)	Analysis Date	Narrative ID
18-02-00431-001	BPES-DF-04A	02/02/2018	DRINKING FOUNTAIN	259	02/07/2018	
18-02-00431-002	BPES-DF-04B	02/02/2018	DRINKING FOUNTAIN	973	02/07/2018	
18-02-00431-003	BPES-DF-22A	02/02/2018	DRINKING FOUNTAIN	11200	02/19/2018	
18-02-00431-004	BPES-DF-22B	02/02/2018	DRINKING FOUNTAIN	49.0	02/07/2018	

Method: SM 3113B-2010
 Analyst: Jennalee Zlotkowski
 Accreditation #: VA 460172

Reviewed By Authorized Signatory: *Melissa Kanode*

Missy Kanode
 QA/QC Clerk

Sample Results denoted with a "less than" (<) sign contain less than the reporting limit which is 1 ppb.

The EPA Maximum Contaminant Level for Lead in Drinking Water is 15 ppb. The results herein conform to NELAC standards, where applicable, unless otherwise narrated on this report. Results represent the analysis of samples submitted by the client. Sample location, description, field parameter results, etc., were provided by the client. This report cannot be reproduced, except in full, without written approval from Environmental Hazards Services, L.L.C.

LEGEND ug/L= micrograms per liter ppb = parts per billion



ENVIRONMENTAL HAZARDS SERVICES, LLC
Water Chain-of-Custody Form

(For Multi-Sample Projects)
 Richmond, VA - Phone: (800) 347-4010 FAX: (804) 275-4907
 ONLINE CLIENT PORTAL AVAILABLE FOR ANALYSIS RESULTS AT: www.leadlab.com

18-02-00431



Due Date:
 03/16/2018
 (Friday)
 AE

Company Name: EEE Consulting Inc Account #: 48-5796

Address: 8525 Bell Creek Rd City/State/Zip: Mechanicsville, VA 23116

Phone: 804-442-3330 Email: csmith@eee-consulting.com Fax: _____

Project Name / Collection Address: Battlefield Park Elementary School City/State: Mechanicsville, VA Zip: 23111
 (Required) (Required)

Age of Property: _____ Well Tag # (If Applicable): _____ Collected by: Carroll H. Ellis, III Certification #: _____

P.O. #: 17-191 Relinquished by: Carroll H. Ellis III Signature: Carroll H. Ellis III Date: 2, 2, 18

No.	Client Sample ID	Collection Location (Ex: Kitchen Sink)	Collection Date	Collection Time	Metals			Field Parameters		LAB USE
					Lead	Copper	Other	Field pH at time of Collection:	Temp. at time of Collection:	Temp at Time of Receipt:
1	BPES-DF-04A	Drinking Fountain	2/2/18	1:30	AM/PM	<input checked="" type="checkbox"/>				
2	BPES-DF-04B	Drinking Fountain	2/2/18	1:30	AM/PM	<input checked="" type="checkbox"/>				
3	BPES-DF-22A	Drinking Fountain	2/2/18	1:39	AM/PM	<input checked="" type="checkbox"/>				
4	BPES-DF-22B	Drinking Fountain	2/2/18	1:39	AM/PM	<input checked="" type="checkbox"/>				
5			2/2/18		AM/PM	<input checked="" type="checkbox"/>				
6			2/2/18		AM/PM	<input checked="" type="checkbox"/>				
7			2/2/18		AM/PM	<input checked="" type="checkbox"/>				
8			2/2/18		AM/PM	<input checked="" type="checkbox"/>				
9			2/2/18		AM/PM	<input checked="" type="checkbox"/>				
10			2/2/18		AM/PM	<input checked="" type="checkbox"/>				

Received By: T. Mohammed
 Date: 2/2/18 Time: 4p Temp. Received: _____
 Shipping Tracking #: _____
 Page _____ of _____

PLEASE SEND WATER KIT SAMPLES TO THE FOLLOWING ADDRESS:
556 S. Mansfield St.
Ypsilanti, MI 48197
All Samples Except for Lead /Metals Must Be Shipped On Ice Via Overnight Shipping

NTL Lab ID Number