



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 and Additional Sampling Events
Henry Clay Elementary School

Dear Ed,

EEE Consulting Inc. (3e) sampled twenty (20) high priority drinking water sources at the Henry Clay Elementary School located at 310 S James Street in Ashland, Virginia on November 1, 2017. High priority drinking water sources tested included the water main entering the building, drinking water fountains/coolers and bubbler drinking fountains. One (1) sample 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 Henry Clay Elementary School contained lead concentrations below the Action Limit. Samples results depicted in red contained concentrations above the Action Limit of 20 ppb lead.

Elevated Lead Results - November 1, 2017:

Sample ID	Location	Lead Result
HCES-DF-09	Drinking Fountain in the Hallway outside Room 19	36.7 ppb

3e recommended this source 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 unit or the internal plumbing of the building. The unit was taken out of service until follow-up testing was completed on February 2, 2018

In addition, seven (7) bubbler fountains that were not included in the November sampling event were included during this sampling event. An initial draw water sample was collected from each fountain. The samples were submitted to Environmental Hazards Services, LLC in Chesterfield, Virginia for analysis of lead content.

Resample and New Source Results - February 2, 2018:

Sample ID	Location	Lead Result
HCES-DF-09A	Drinking Fountain in the Hallway outside Room 19	34.5 ppb
HCES-DF-09B	Drinking Fountain in the Hallway outside Room 19	519 ppb
HCES-DF-20	Bubbler Fountain in the Hallway inside Room 22	123 ppb
HCES-DF-21	Bubbler Fountain in the Hallway inside Art Room	<1.00 ppb
HCES-DF-22	Bubbler Fountain in the Hallway inside Room 27	<1.00 ppb
HCES-DF-23	Bubbler Fountain in the Hallway inside Room 28	<1.00 ppb
HCES-DF-24	Bubbler Fountain in the Hallway inside Room 29	<1.00 ppb
HCES-DF-25	Bubbler Fountain in the Hallway inside Room 30	<1.00 ppb
HCES-DF-26	Bubbler Fountain in the Hallway inside Room 2	<1.00 ppb

The laboratory results indicated lead concentrations from resamples HCES-DF-09A and HCES-DF-09B were above the EPA Action Limit of 20 ppb. **3e** determined that the higher concentration of the second draw sample (HCES-DF-09B) is likely due to leaching of lead into the water as it sits in the chiller within the water fountain.

The laboratory results also indicated the lead concentration from the new source, HCES-DF-20, was above the EPA Action Limit of 20 ppb. **3e** recommended HCES-DF-20 be resampled with an initial draw sample followed by a 30-second flush sample to determine whether lead is being contributed from the units or the internal plumbing of the building. The unit was taken out of service until follow-up testing was completed on April 13, 2018.

Resample Results – April 13, 2018:

<u>Sample ID</u>	<u>Location</u>	<u>Lead Result</u>
HCES-DF-20A	Bubbler Fountain in Hallway inside Room 22	13.4 ppb
HCES-DF-20B	Bubbler Fountain in Hallway inside Room 22	5.23 ppb

The resample results indicated that lead concentrations from this source were below the EPA Action Limit of 20 ppb. Documentation for the resamples is included on the attached field sampling documentation form and sample location sites are represented on the attached building diagram. There are no further recommendations for this source.

In lieu of lead contamination being localized and limited to one (1) unit (HCES-DF-09), located in the hallway outside of Room 19, **3e** recommends replacing this source with a new fountain, 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 fountain 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,



Carroll H. Ellis, III
Environmental Scientist

Attachments

Sample Recordkeeping Form										School: Henry Clay 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	HCES-S-01	10/31/17	6:07 AM	Initial	Kitchen Prep Sink		EHS	44081705	1.69	
2	ES	HCES-DF-01	10/31/17	6:09 AM	Initial	Drinking Fountain	HAC8FSCWFQ-1D	101130073	44081705	<1.00	
3	ES	HCES-DF-02	10/31/17	6:14 AM	Initial	Drinking Fountain		95210174	44081705	3.78	
4	ES	HCES-DF-03	10/31/17	6:17 AM	Initial	Bubbler Fountain			EHS	44081705	<1.00
5	ES	HCES-DF-04	10/31/17	6:18 AM	Initial	Drinking Fountain	SW14A-1		EHS	44081705	2.25
6	ES	HCES-DF-05	10/31/17	6:20 AM	Initial	Drinking Fountain			EHS	44081705	2.95
7	ES	HCES-DF-06	10/31/17	6:22 AM	Initial	Drinking Fountain	EHFS-8	820324577	EHS	44081705	<1.00
8	ES	HCES-DF-07	10/31/17	6:26 AM	Initial	Drinking Fountain	P14M-H400	13001031	EHS	44081705	1.02
9	ES	HCES-DF-08	10/31/17	6:29 AM	Initial	Bubbler Fountain			EHS	44081705	<1.00
10	ES	HCES-DF-09	10/31/17	6:32 AM	Initial	Drinking Fountain			EHS	44081705	36.7
11	ES	HCES-DF-10	10/31/17	6:34 AM	Initial	Drinking Fountain	SM14A-1	01633287C6	EHS	44081705	1.97
12	ES	HCES-DF-11	10/31/17	6:37 AM	Initial	Bubbler Fountain			EHS	44081705	5.34
13	ES	HCES-DF-12	10/31/17	6:39 AM	Initial	Bubbler Fountain			EHS	44081705	3.34
14	ES	HCES-DF-13	10/31/17	6:42 AM	Initial	Bubbler Fountain			EHS	44081705	<1.00
15	ES	HCES-DF-14	10/31/17	6:45 AM	Initial	Drinking Fountain	P8ACSL-H310	1145002166	EHS	44081705	<1.00
16	ES	HCES-DF-15	10/31/17	6:45 AM	Initial	Drinking Fountain	P8ACSL-H310	1145002166	EHS	44081705	<1.00
17	ES	HCES-DF-16	10/31/17	6:50 AM	Initial	Bubbler Fountain			EHS	44081705	<1.00
18	ES	HCES-DF-17	10/31/17	6:53 AM	Initial	Bubbler Fountain			EHS	44081705	<1.00
19	ES	HCES-DF-18	10/31/17	6:54 AM	Initial	Bubbler Fountain			EHS	44081705	<1.00
20	ES	HCES-DF-19	10/31/17	7:00 AM	Initial	Drinking Fountain	PLF13PL-D100	1044001706	EHS	44081705	<1.00
Resamples											
10	CE	HCES-DF-09A	02/02/18	11:11 AM	Initial	Drinking Fountain			EHS	44111700	34.5

Sample Recordkeeping Form										School: Henry Clay 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)
10	CE	HCES-DF-09B	02/02/18	11:12 AM	30 sec	Drinking Fountain		EHS	44111700	519
New Samples										
21	CE	HCES-DF-20	02/02/18	11:07 AM	Initial	Bubbler Fountain		EHS	44111700	123
22	CE	HCES-DF-21	02/02/18	10:55 AM	Initial	Bubbler Fountain		EHS	44111700	<1.00
23	CE	HCES-DF-22	02/02/18	10:57 AM	Initial	Bubbler Fountain		EHS	44111700	<1.00
24	CE	HCES-DF-23	02/02/18	10:59 AM	Initial	Bubbler Fountain		EHS	44111700	<1.00
25	CE	HCES-DF-24	02/02/18	11:01 AM	Initial	Bubbler Fountain		EHS	44111700	<1.00
26	CE	HCES-DF-25	02/02/18	11:02 AM	Initial	Bubbler Fountain		EHS	44111700	<1.00
27	CE	HCES-DF-26	02/02/18	11:17 AM	Initial	Bubbler Fountain		EHS	44111700	<1.00
New Resamples										
	NR	HCES-DF-20A	4/13/2018	7:16 AM	Initial	Bubbler Fountain		EHS	44111700	13.4
	NR	HCES-DF-20B	4/13/2018	7:17 AM	30 sec	Bubbler Fountain		EHS	44111700	5.23



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

Lead in Drinking Water Analysis Report

Report Number: 18-02-00429

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

Received Date: 02/02/2018
 Reported Date: 02/13/2018
 Sampled By: Carroll H Ellis, III
 Tech Certification #:

Project/Test Address: Henry Clay Elementary School; Ashland, 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
18-02-00429-001	HCES-DF-09A	02/02/2018	DRINKING FOUNTAIN	34.5	02/07/2018	
18-02-00429-002	HCES-DF-09B	02/02/2018	DRINKING FOUNTAIN	519	02/07/2018	
18-02-00429-003	HCES-DF-20	02/02/2018	DRINKING FOUNTAIN	123	02/07/2018	
18-02-00429-004	HCES-DF-21	02/02/2018	DRINKING FOUNTAIN	<1.00	02/07/2018	
18-02-00429-005	HCES-DF-22	02/02/2018	DRINKING FOUNTAIN	<1.00	02/07/2018	
18-02-00429-006	HCES-DF-23	02/02/2018	DRINKING FOUNTAIN	<1.00	02/07/2018	
18-02-00429-007	HCES-DF-24	02/02/2018	DRINKING FOUNTAIN	<1.00	02/07/2018	
18-02-00429-008	HCES-DF-25	02/02/2018	DRINKING FOUNTAIN	<1.00	02/07/2018	
18-02-00429-009	HCES-DF-26	02/02/2018	DRINKING FOUNTAIN	<1.00	02/07/2018	

Environmental Hazards Services, L.L.C

Client Number: 48-5796

Report Number: 18-02-00429

Project/Test Address: Henry Clay Elementary School; Ashland, VA

Lab Sample Number	Client Sample ID	Collection Date	Collection Location	Concentration ug/L (ppb)	Analysis Date	Narrative ID
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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



EHS
Laboratories™

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



18-02-00429

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: Henry Clay Elementary School

City/State: Ashland, VA

Zip: 23005

Age of Property: _____ Well Tag # (If Applicable): _____

Collected by: Carroll H. Ellis, III

Certification #: _____

P.O. #: 17-191

Relinquished by: Carroll Ellis III

Signature: Carroll 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:	
1	HCES-DF-09A	Drinking Fountain	2/2/18	11:11	✓					
2	HCES-DF-09B	Drinking Fountain	2/2/18	11:12	✓					
3	HCES-DF-20	Drinking Fountain	2/2/18	11:07	✓					
4	HCES-DF-21	Drinking Fountain	2/2/18	10:55	✓					
5	HCES-DF-22	Drinking Fountain	2/2/18	10:57	✓					
6	HCES-DF-23	Drinking Fountain	2/2/18	10:54	✓					
7	HCES-DF-24	Drinking Fountain	2/2/18	11:01	✓					
8	HCES-DF-25	Drinking Fountain	2/2/18	11:02	✓					
9	HCES-DF-26	Drinking Fountain	2/2/18	11:17	✓					
10			2/2/18		✓					

Received By: J. Johnson

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



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: 18-04-01809
 Received Date: 04/13/2018
 Reported Date: 04/17/2018
 Sampled By: Nadine Robertson
 Tech Certification #:

Project/Test Address: Henry Clay ES & Elmont ES; Ashland; Lee Davis HS; Mechanicsville; South Anna ES; Montpelier, 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
18-04-01809-001	HCES-DF-20A	04/13/2018	HENRY CLAY ES HALLWAY INSIDE ROOM 22	13.4	04/16/2018	
18-04-01809-002	HCES-DF-20B	04/13/2018	HENRY CLAY ES HALLWAY INSIDE ROOM 22	5.23	04/16/2018	
18-04-01809-003	EES-DF-24A	04/13/2018	ELMONT ES-ROOM D-7	16.8	04/16/2018	
18-04-01809-004	EES-DF-24B	04/13/2018	ELMONT ES-ROOM D-7	2.93	04/16/2018	
18-04-01809-005	LDHS-DF-19A	04/13/2018	LEE DAVIS HS-OUTSIDE FIELD HOUSE	<1.00	04/16/2018	
18-04-01809-006	LDHS-DF-19B	04/13/2018	LEE DAVIS HS-OUTSIDE FIELD HOUSE	<1.00	04/16/2018	
18-04-01809-007	SAES-DF-32A	04/13/2018	SOUTH ANNA ES-ROOM 42	1420	04/16/2018	
18-04-01809-008	SAES-DF-32B	04/13/2018	SOUTH ANNA ES-ROOM 42	29.5	04/16/2018	
18-04-01809-009	SAES-DF-40A	04/13/2018	SOUTH ANNA ES-ROOM 8	321	04/16/2018	
18-04-01809-010	SAES-DF-40B	04/13/2018	SOUTH ANNA ES-ROOM 8	3.64	04/16/2018	

Environmental Hazards Services, L.L.C

Client Number: 48-5796

Report Number: 18-04-01809

Project/Test Address: Henry Clay ES & Elmont ES; Ashland; Lee Davis HS;
Mechanicsville; South Anna ES; Montpelier, VA

Lab Sample Number	Client Sample ID	Collection Date	Collection Location	Concentration ug/L (ppb)	Analysis Date	Narrative ID
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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.

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



WATER Chain of Custody Form

Environmental Hazards Services, LLC

7469 Whitepine Rd, Richmond, VA 23237

800-347-4010

www.leadlab.com

Company Name: EEE Consulting, Inc.

Address: 8525 Bell Creek Rd, Mechanicsville, VA 23116

Phone: 80-442-3330

Email: nrobertson@eee-consulting.com

Acct No. 48-5796

School Name & Address Henry Clay ES & Elmont ES, Ashland, Lee Davis HS, Mechanicsville, South Anna ES, Montpelier, VA

Collected By: Nadine Robertson

PO# 18-010

Age of Property: _____

Water Source: Public or

Well

TURN AROUND TIME: 5 Day per Kathy

No.	Client Sample ID	Sample Location	Collection Date	Collection Time	AM	PM	Analyte
1	HCES-DF-20A	Henry Clay ES-Hallway inside Room 22	4/13/2018	7:16	X		Pb
2	HCES-DF-20B	Henry Clay ES-Hallway inside Room 22	4/13/2018	7:17	X		Pb
3	EES-DF-24A	Elmont ES- Room D-7	4/13/2018	7:36	X		Pb
4	EES-DF-24B	Elmont ES- Room D-7	4/13/2018	7:37	X		Pb
5	LDHS-DF-19A	Lee Davis HS-Outside Field House	4/13/2018	7:20	X		Pb
6	LDHS-DF-19B	Lee Davis HS-Outside Field House	4/13/2018	7:21	X		Pb
7	SAES-DF-32A	South Anna ES-Room 42 (WELL)	4/13/2018	6:36	X		Pb
8	SAES-DF-32B	South Anna ES-Room 42	4/13/2018	6:37	X		Pb
9	SAES-DF-40A	South Anna ES-Room 8	4/13/2018	6:46	X		Pb
10	SAES-DF-40B	South Anna ES-Room 8	4/13/2018	6:47	X		Pb
11							Pb
12							Pb
13							Pb
14							Pb
15							Pb
16							Pb
17							Pb
18							Pb
19							Pb
20							Pb
21							Pb
22							Pb
23							Pb
24							Pb
25							Pb
26							Pb
27							Pb
28							Pb
29							Pb
30							Pb
31							Pb
32							Pb
33							Pb
34							Pb
35							Pb
36							Pb
37							Pb
38							Pb
39							Pb
40							Pb
41							Pb
42							Pb
43							Pb
44							Pb
45							Pb

18-04-01809



Due Date:
04/20/2018
(Friday)
AE



Released By:	Nadine Robertson	Date & Time	4/13/2018	Signature:	
Received By:	S. Nicoletti	Date & Time	4/13/18 9:29 am	Signature:	<i>[Signature]</i>