



Birmingham Public Schools
 Legionella Sampling Analysis
 Project Number: AE200893

Covington School										
Date of Sampling: January 6, 2021 and January 13, 2021										
Sampler: Brendan Koziol										
Sample #	Location	Time Collected	Bottle Type	Chlorine (ppm)	Temp °C	pH	Legionella Pneumophila Lab Result	Other Legionella Species ³ Lab Results	Total Legionella raw ct.	Total Legionella (cfu (colony forming units)/ml)
Covington-13	Staff Lounge, Faucet	9:50 AM	Swab	0.00	25.5	7.72	ND	ND	ND	<20
Covington-13	Staff Lounge, Faucet	9:55 AM	1 Liter	0.00	25.5	7.72	ND	ND	ND	<0.1
Covington-29	Cafeteria, Hydration Station, Bottle Fill	10:07 AM	Swab	0.00	17.5	7.74	ND	ND	ND	<20
Covington-29	Cafeteria, Hydration Station, Bottle Fill	10:12 AM	1 Liter	0.00	17.5	7.74	ND	ND	ND	<0.1
Covington NP-02	Hallway, South of Media Center, Women's Bathroom, Left Faucet	9:24 AM	Swab	0.00	18.2	7.67	ND	ND	ND	<20
Covington NP-02	Hallway, South of Media Center, Women's Bathroom, Left Faucet	9:30 AM	1 Liter	0.00	18.2	7.67	ND	ND	ND	<0.1
Covington NP-149	Main Office, Clinic, Bathroom, Faucet	10:25 AM	Swab	0.00	22.3	7.64	ND	ND	ND	<20

1) <0.1 is the detection limit for Legionella in bulk water samples
 2) <20 is the detection limit for Legionella in bioswab samples
 3) See attached analytical results for full list of other Legionella species



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Covington NP-149	Main Office, Clinic, Bathroom, Faucet	10:30 AM	1 Liter	0.00	22.3	7.64	ND	ND	ND	<0.1
Covington-HWH-01	Hot Water Heater in Boiler Room, East Tank	11:00 AM	Swab	0.00	36.2	7.70	ND	ND	ND	<20
Covington-HWH-02	Hot Water Heater in Boiler Room, West Tank	11:10 AM	1 Liter	0.00	38.4	7.60	ND	ND	ND	<0.1
Covington-HMDFR-01	District Head End Room, South Humidifier	7:52 AM	Swab	0.00	0.00	0.00	ND	ND	ND	<20
Covington-HMDFR-01	District Head End Room, South Humidifier	8:00 AM	Bulk	0.00	16.5	8.87	ND	ND	ND	<0.1
Covington-HMDFR-02	District Head End Room, North Humidifier	Could not sample, Humidifier not Functional.								
Covington-HMDFR-02	District Head End Room, North Humidifier	Could not sample, Humidifier not Functional.								

- 1) <0.1 is the detection limit for Legionella in bulk water samples
- 2) <20 is the detection limit for Legionella in bioswab samples
- 3) See attached analytical results for full list of other Legionella species



EMLab P&K

Report for:

Lindsey Evellth
Arch Environmental - healthAIR
37720 Interchange Drive
Farmington Hills, MI 48335

Regarding: Project: AE200893; Covington Middle School
EML ID: 2552683

Approved by:

Cluster Leader
Dr. Kamash Pillai

Dates of Analysis:
Legionella-CDC method: 01-15-2021

Service SOPs: Legionella-CDC method (EM-BT-S-1687)
AIHA-LAP, LLC accredited service, Lab ID #176641

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Arch Environmental - healthAIR
 C/O: Lindsey Evelith
 Re: AE200893; Covington Middle School

Date of Sampling: 01-06-2021
 Date of Receipt: 01-07-2021
 Date of Report: 01-18-2021

QUANTITATIVE LEGIONELLA REPORT

Location:	1: Covington -13 Swab		2: Covington -13 Bulk Water		3: Covington -29 Swab		4: Covington -29 Bulk Water	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	12168756-1		12168757-1		12168758-1		12168759-1	
Analysis Date:	01/15/2021		01/15/2021		01/15/2021		01/15/2021	
Sample type	Swab sample		Water sample		Swab sample		Water sample	
Volume filtered (ml)	N/A		200		N/A		200	
Reporting Units	1 swab		1 ml		1 swab		1 ml	
Detection Limit†	< 20		< 0.1		< 20		< 0.1	
Analytical Sensitivity†	< 20		< 0.1		< 20		< 0.1	
	raw ct.	cfu*/unit	raw ct.	cfu*/unit	raw ct.	cfu*/unit	raw ct.	cfu*/unit
L. pneumophila serotype 1								
L. pneumophila serotype 2-15								
Other Legionella species								
§TOTAL Legionella	ND	< 20	ND	< 0.1	ND	< 20	ND	< 0.1

*cfu = colony forming units ND = none detected

Comments:

For water samples, the submitted volume affects dilution factor and limit of detection. A sample volume of at least 200ml is recommended for potable water samples for environments with high-risk populations and some other applications. Guidance on sampling, action thresholds and other relevant information can be found at (<https://www.osha.gov>) as well as other international, national and local agencies.

Identifiers listed without a count or data entry were not detected during the course of the analysis for the respective sample.

"Other Legionella species" include, but are not limited to, the following organisms: *Legionella anisa*, *Legionella bozemanii*, *Legionella dumoffii*, *Legionella gormanii*, *Legionella jordanis*, *Legionella longbeachae 1 and 2*, and *Legionella micdadei*.

† The limit of detection is a raw count of 1 at the lowest dilution plated, represented here as a theoretical detection limit of 1 raw count/ reporting unit x the dilution factor on the lowest dilution plated. The analytical sensitivity is represented as being equal to 1 raw count/ reporting unit x the dilution factor, but on the on the lowest reportable (or countable) dilution plated.

§ Total CFU/unit has been rounded to two significant figures to reflect analytical precision.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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 C/O: Lindsey Evelith
 Re: AE200893; Covington Middle School

Date of Sampling: 01-06-2021
 Date of Receipt: 01-07-2021
 Date of Report: 01-18-2021

QUANTITATIVE LEGIONELLA REPORT

Location:	5: Covington -NP-02 Swab		6: Covington -NP-02 Bulk Water		7: Covington -NP-149 Swab		8: Covington -NP-149 Bulk Water	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	12168760-1		12168761-1		12168762-1		12168763-1	
Analysis Date:	01/15/2021		01/15/2021		01/15/2021		01/15/2021	
Sample type	Swab sample		Water sample		Swab sample		Water sample	
Volume filtered (ml)	N/A		200		N/A		200	
Reporting Units	1 swab		1 ml		1 swab		1 ml	
Detection Limit†	< 20		< 0.1		< 20		< 0.1	
Analytical Sensitivity†	< 20		< 0.1		< 20		< 0.1	
	raw ct.	cfu*/unit	raw ct.	cfu*/unit	raw ct.	cfu*/unit	raw ct.	cfu*/unit
L. pneumophila serotype 1								
L. pneumophila serotype 2-15								
Other Legionella species								
§TOTAL Legionella	ND	< 20	ND	< 0.1	ND	< 20	ND	< 0.1

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 C/O: Lindsey Evelith
 Re: AE200893; Covington Middle School

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 Date of Receipt: 01-07-2021
 Date of Report: 01-18-2021

QUANTITATIVE LEGIONELLA REPORT

Location:	9: Covington -HWH-01 Bulk Water		10: Covington -HWH-02 Bulk Water	
Comments (see below)	None		None	
Lab ID-Version‡:	12168764-1		12168765-1	
Analysis Date:	01/15/2021		01/15/2021	
Sample type	Water sample		Water sample	
Volume filtered (ml)	200		200	
Reporting Units	1 ml		1 ml	
Detection Limit†	< 0.1		< 0.1	
Analytical Sensitivity†	< 0.1		< 0.1	
	raw ct.	cfu*/unit	raw ct.	cfu*/unit
L. pneumophila serotype 1				
L. pneumophila serotype 2-15				
Other Legionella species				
§TOTAL Legionella	ND	< 0.1	ND	< 0.1

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Comments:

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EMLab P&K

Report for:

Lindsey Evelith
Arch Environmental - healthAIR
37720 Interchange Drive
Farmington Hills, MI 48335

Regarding: Project: AE200893; Covington Middle School
EML ID: 2556882

Approved by:

Cluster Leader
Dr. Kamash Pillai

Dates of Analysis:
Legionella-CDC method: 01-28-2021

Service SOPs: Legionella-CDC method (EM-BT-S-1687)
AIHA-LAP, LLC accredited service, Lab ID #176641

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Eurofins EMLab P&K

1815 West Diehl Road, Suite 800, Naperville, IL 60563
(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: Arch Environmental - healthAIR
C/O: Lindsey Evelith
Re: AE200893; Covington Middle School

Date of Sampling: 01-13-2021
Date of Receipt: 01-14-2021
Date of Report: 01-28-2021

QUANTITATIVE LEGIONELLA REPORT

Location:	1: Covington-HMDRF-01 Swab		2: Covington-HMDRF-01 Bulk	
Comments (see below)	None		None	
Lab ID-Version‡:	12189669-1		12189670-1	
Analysis Date:	01/28/2021		01/28/2021	
Sample type	Swab sample		Water sample	
Volume filtered (ml)	N/A		200	
Reporting Units	1 swab		1 ml	
Detection Limit†	< 20		< 0.1	
Analytical Sensitivity†	< 20		< 0.1	
	raw ct.	cfu*/unit	raw ct.	cfu*/unit
L. pneumophila serotype 1				
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