

# FLINT COMMUNITY SCHOOLS SAMPLING RESULTS REPORT



## INTRODUCTION

The Flint Community Schools (FCS) consists of 13 facilities: 11 schools, a Central Kitchen and an Administration Building. The Michigan Departments of Environmental Quality (DEQ) and Licensing and Regulatory Affairs (LARA) were asked to perform three rounds (Round 1, Round 2, and Round 3) of sampling in a nine-week period, January 19 – March 18, 2018. Each round took three weeks to sample with approximately four facilities each weekend.

## SAMPLING METHOD

Each operational drinking water fixture at the school was identified and sampled. 250mL samples were taken before and after a minimum six-hour stagnation period, and in some cases, 10 – 1L sequential samples were taken.

## RESULTS AND NOTES

When reviewing the lab sample results, the sample description will contain letters to indicate the fixture type. Specifically, kitchen sinks have “KC” in the name, and classroom faucets are noted as “CF.”

For each round, the following protocol was followed: A mapping sequence was provided by LARA, so samples were taken in order of the direction of the flow of the water after it enters the building. Then 250mL pre-flush samples, of unfiltered water, were taken at locations determined by LARA to have the most likelihood of having a significant stagnation period. These samples are categorized as “P1” (for Round 1) and “PRE” (for Rounds 2 and 3) in the Site Code column of the results. After these samples were taken, each facility was flushed for a pre-determined amount of time as appropriate for the size of the building. The timeframes ranged from one to five hours depending on the facility. The next day, after the stagnation period, additional 250mL samples were taken at each facility categorized as “3S1”. Additional samples were taken, however the protocol for each round was different.

*Round 1*, the goal was to establish a baseline of the drinking water quality in the facilities.

Week 1: January 19-21, 2018

Facilities Sampled: Durant Tuuri Mott, Eisenhower, Freeman, and Neithercut

Week 2: January 26-28, 2018

Facilities Sampled: Brownell, Doyle Ryder, Holmes, Pierce, and Potter

Week 3: February 2-3, 2018

Facilities Sampled: Administration, Central Kitchen, Northwestern, and Southwestern.

After the pre-flush samples were collected, each point of use (POU) filter cartridge was checked and replaced at the points where the indicator light flashed “red.” After the “3S1” samples, 10 - 1L sequential samples were taken at predetermined locations.

*Round 2*, was initiated to create an exposure model of sampling. The question was “what amount of lead is a child being exposed to if they were to consume water from a particular faucet throughout the school day?”

Week 1: February 9-11, 2018

Facilities Sampled: None, sampling postponed due to weather

Week 2: February 16-18, 2018

Facilities Sampled: Freeman, Neithercut, Durant Tuuri Mott, Eisenhower, Holmes, Brownell, Doyle Ryder, Pierce, and Potter

Week 3: February 23-24, 2018

Facilities Sampled: Administration, Central Kitchen, Northwestern, and Southwestern

Once the pre-flush samples were obtained, the filter assembly (PUR Classic Model #FM-3333B) was removed, visually checked for the presence or absence of particulate material and noted on the form. At four of the facilities (Doyle Ryder, Freeman, Neithercut, and Brownell) where results were above 15 ppb for lead in Round 1, the material in the aerator was collected for metals analysis. After the particulate samples were collected, the aerators were cleaned of any debris using a toothbrush. Once the filter assembly was reattached, the filter was engaged and the cartridges were replaced where the indicator light flashed “red”. The next day, after the “3S1” sample was taken, a two-hour stagnation occurred and then another 250mL sample was taken (categorized as “3S2”).

*Round 3*, a similar protocol was followed as in Round 2.

Week 1: March 2-3, 2018

Facilities Sampled: Freeman, Neithercut, Durant Tuuri Mott, and Eisenhower

Week 2: March 9-10, 2018

Facilities Sampled: Holmes, Brownell, Doyle Ryder, Piece and Potter

Week 3: March 16-17, 2018

Facilities Samples: Administration, Central Kitchen, Northwestern, and Southwestern

Once the samples were obtained, the filter assembly was removed, visually checked for the presence or absence of particulate material in the primary and secondary aerators and then notated on the form. Depending on the facility, the filter assemblies were then either replaced or cleaned, in accordance with the updated aerator cleaning procedure. Once the filter assembly was reattached, the filter was engaged and cartridges were replaced where the indicator light flashed “red”. The next day, after the “3S1” sample was taken, the water was allowed to stagnate in the pipes for two hours. Following this period, another 250mL sample was taken (categorized as “3S2”).

## Eisenhower Elementary

### ROUND 1

#### PRE FLUSH

January 20, 2018

Of the ten (10) samples:

- All lead samples less than 15 ppb  
Lead Range: ND to 2 ppb
- All copper samples less than 1,300 ppb  
Copper Range: 50 to 140 ppb

#### 3S1

January 21, 2018

Of the twenty-two (22) samples:

- All lead samples less than 15 ppb  
Lead Range: ND to 3 ppb
- All copper samples less than 1,300 ppb  
Copper Range: 60 to 180 ppb

#### SEQUENTIALS

January 21, 2018

Of the fifty (50) samples:

- All lead samples less than 15 ppb  
Lead Range: ND to 4 ppb
- All copper samples over 1,300 ppb  
Copper Range: ND to 280 ppb

### ROUND 2

#### PRE FLUSH

February 16, 2018

Of the twenty-four (24) samples:

- One lead sample over 15 ppb  
Lead Range: ND to 69 ppb
- All copper samples less than 1,300 ppb  
Copper Range: 70 to 420 ppb

Field Notes: Exceedance was fixture  
01CF046 Library.

#### 3S1

February 17, 2018

Of the twenty-four (24) samples:

- One lead sample over 15 ppb  
Lead Range: ND to 91 ppb
- All copper samples less than 1,300 ppb  
Copper Range: ND to 220 ppb

Field Notes: Exceedance was fixture  
01CF046 Library.

#### 3S2

February 17, 2018

Of the twenty-four (24) samples:

- Two lead samples over 15 ppb  
Lead Range: ND to 279 ppb
- All copper samples less than 1,300 ppb  
Copper Range: ND to 39 ppb

Field Notes: Exceedances were fixtures  
01CF046 Library and 01CF016 Rm 106.

### ROUND 3

#### PRE FLUSH

March 2, 2018

Of the twenty-four (24) samples:

- One lead sample over 15 ppb  
Lead Range: ND to 104 ppb
- All copper samples less than 1,300 ppb  
Copper Range: ND to 260 ppb

Field Notes: Exceedance was fixture  
01CF046 Library.

#### 3S1

March 3, 2018

Of the twenty-four (24) samples:

- One lead sample over 15 ppb  
Lead Range: ND to 16 ppb
- All copper samples less than 1,300 ppb  
Copper Range: 50 to 210 ppb

Field Notes: Exceedance was fixture  
01CF046 Library.

#### 3S2

March 3, 2018

Of the twenty-four (24) samples:

- All lead samples less than 15 ppb  
Lead Range: ND to 10 ppb
- All copper samples less than 1,300 ppb  
Copper Range: ND to 120 ppb