

POST-FIXTURE REPLACEMENT SAMPLING RESULTS REPORT

Flint Community Schools, Central Kitchen



February 3, 2017

INTRODUCTION

During the week of May 8, 2016, the Department of Licensing and Regulatory Affairs completed replacement of drinking water fixtures at Flint Community Schools, Central Kitchen. These fixture replacements were required because testing results indicated that the older fixtures at most schools were imparting lead to the drinking water. After the fixtures were replaced, a more thorough flushing of the plumbing lines was completed to remove any remaining materials from the building's water supply system.

On Saturday, November 14, 2015, a pre-fixture replacement sampling was conducted by the Department of Licensing and Regulatory Affairs (DLARA) and the Department of Environmental Quality (DEQ).

After fixtures were replaced, July 18, 2016, the departments staff went back and conducted a post-fixture sampling assessment of the plumbing system at the facility.

For the protection of public health, DLARA started offering the installation of filters on drinking water fixtures at daycare facilities and schools in Flint. This work began in July 2016.

Water Main Description

An inspection from inside the facility yielded a water main consisting of two-inch copper pipe.

SAMPLING METHODS

Fixture Sampling

There are nine drinking water fixtures that were identified at the school. After a minimum six-hour stagnation period, four samples were collected at each of the fixtures identified. Two initial samples were collected immediately after turning on the tap. The water was then flushed for 30 seconds and a third sample was collected. Finally, the water was flushed for another two minutes, and the fourth sample was collected. These samples were used to determine the impact of any lead sources in and around each specific fixture and its connecting plumbing.

Deep Plumbing Sampling

A different sampling method is used to determine the impact of any lead sources located deep in the supply plumbing of the building. During this method, ten bottles are collected in a row (consecutively). These bottles are one liter in size, which is larger than those used for the fixture sampling method.

Sampling Notes

November 14, 2015

- Brass components were identified in the connecting plumbing.
- Thirty-six samples from the nine fixtures were collected and sent to the lab for analysis.
- Twenty samples from two specific fixtures were collected to test the deeper part of the plumbing system and sent to the lab for analysis.

June 18, 2016

- All of the aerators appeared clear of debris at the sampling.
- Thirty-six samples from the nine fixtures were collected and sent to the lab for analysis.
- Twenty samples from two specific fixtures were collected to test the deeper part of the plumbing system and sent to the lab for analysis.

January 24, 2017

- One sample from each of nine fixtures was collected and sent to the lab for analysis.
- The bottle used for this sampling event was 250 milliliter.

SAMPLING RESULTS

Pre-Fixture Replacement

November 14, 2015

Of the 56 samples:

- Lead Range: Non-Detected (ND) to 121 parts per billion (ppb)
- Copper Range: ND to 890 ppb

Post-Fixture Replacement

June 18, 2016

Of the 46 samples:

- Lead Range: ND to 285 ppb
- Copper Range: ND to 2,740 ppb

Post-Filter Installation

January 24, 2017

Of the 9 samples:

- Lead Range: ND to 7 ppb
- Copper Range: ND to 960 ppb

** Where the result is non-detected for lead it means that the amount of lead in the water was less than 1 ppb.*

** Where the result is non-detected for copper it means that the amount of copper in the water was less than 50 ppb.*

Flint Community Schools Central Kitchen

November 14, 2015

Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	4	KC001 BREAK ROOM	P1	Copper	260
Lead	5	KC001 BREAK ROOM	P2	Copper	180
Lead	2	KC001 BREAK ROOM	F01	Copper	90
Lead	1	KC001 BREAK ROOM	F02	Copper	70
Lead	67	DW002 KITCHEN BELOW CLOCK	P1	Copper	890
Lead	20	DW002 KITCHEN BELOW CLOCK	P2	Copper	460
Lead	24	DW002 KITCHEN BELOW CLOCK	F01	Copper	710
Lead	8	DW002 KITCHEN BELOW CLOCK	F02	Copper	180
Lead	121	KC003 NEXT TO BREAD MIXER	P1	Copper	530
Lead	12	KC003 NEXT TO BREAD MIXER	P2	Copper	520
Lead	1	KC003 NEXT TO BREAD MIXER	F01	Copper	310
Lead	ND	KC003 NEXT TO BREAD MIXER	F02	Copper	200
Lead	6	KC004 NEXT TO ICE MACHINE	P1	Copper	110
Lead	2	KC004 NEXT TO ICE MACHINE	P2	Copper	160
Lead	ND	KC004 NEXT TO ICE MACHINE	F01	Copper	220
Lead	ND	KC004 NEXT TO ICE MACHINE	F02	Copper	130
Lead	3	KC005 NEXT TO ICE MACHINE	P1	Copper	290
Lead	1	KC005 NEXT TO ICE MACHINE	P2	Copper	220
Lead	ND	KC005 NEXT TO ICE MACHINE	F01	Copper	120
Lead	ND	KC005 NEXT TO ICE MACHINE	F02	Copper	60
Lead	14	KC006 ACROSS FROM OFFICE	P1	Copper	310
Lead	5	KC006 ACROSS FROM OFFICE	P2	Copper	390
Lead	5	KC006 ACROSS FROM OFFICE	F01	Copper	240
Lead	1	KC006 ACROSS FROM OFFICE	F02	Copper	90
Lead	17	KC007 AT KETTLES	P1	Copper	ND
Lead	25	KC007 AT KETTLES	P2	Copper	60
Lead	2	KC007 AT KETTLES	F01	Copper	ND
Lead	ND	KC007 AT KETTLES	F02	Copper	ND
Lead	6	KC008 AT KETTLES	P1	Copper	90
Lead	5	KC008 AT KETTLES	P2	Copper	190
Lead	ND	KC008 AT KETTLES	F01	Copper	ND
Lead	ND	KC008 AT KETTLES	F02	Copper	ND
Lead	4	KC009 ACROSS FROM KETTLES	P1	Copper	200
Lead	2	KC009 ACROSS FROM KETTLES	P2	Copper	350
Lead	1	KC009 ACROSS FROM KETTLES	F01	Copper	130
Lead	ND	KC009 ACROSS FROM KETTLES	F02	Copper	ND
Lead	ND	KC005 NEXT TO ICE MACHINE	CA1	Copper	80
Lead	ND	KC005 NEXT TO ICE MACHINE	CA2	Copper	90
Lead	ND	KC005 NEXT TO ICE MACHINE	CA3	Copper	90
Lead	ND	KC005 NEXT TO ICE MACHINE	CA4	Copper	110
Lead	ND	KC005 NEXT TO ICE MACHINE	CA5	Copper	110
Lead	ND	KC005 NEXT TO ICE MACHINE	CA6	Copper	90

Non-detected (ND) means; for lead the amount in water is less than 1 ppb and for copper the amount in water is less than 50 ppb.

Flint Community Schools Central Kitchen

November 14, 2015

Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	KC005 NEXT TO ICE MACHINE	CA7	Copper	80
Lead	ND	KC005 NEXT TO ICE MACHINE	CA8	Copper	60
Lead	ND	KC005 NEXT TO ICE MACHINE	CA9	Copper	60
Lead	ND	KC005 NEXT TO ICE MACHINE	CA10	Copper	60
Lead	ND	KC009 ACROSS FROM KETTLES	CB1	Copper	80
Lead	2	KC009 ACROSS FROM KETTLES	CB2	Copper	90
Lead	1	KC009 ACROSS FROM KETTLES	CB3	Copper	50
Lead	ND	KC009 ACROSS FROM KETTLES	CB4	Copper	ND
Lead	ND	KC009 ACROSS FROM KETTLES	CB5	Copper	ND
Lead	ND	KC009 ACROSS FROM KETTLES	CB6	Copper	ND
Lead	ND	KC009 ACROSS FROM KETTLES	CB7	Copper	ND
Lead	ND	KC009 ACROSS FROM KETTLES	CB8	Copper	ND
Lead	ND	KC009 ACROSS FROM KETTLES	CB9	Copper	ND
Lead	ND	KC009 ACROSS FROM KETTLES	CB10	Copper	ND

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	1	KC001 BREAK ROOM	P1	Copper	230
Lead	1	KC001 BREAK ROOM	P2	Copper	180
Lead	ND	KC001 BREAK ROOM	F01	Copper	110
Lead	ND	KC001 BREAK ROOM	F02	Copper	90
Lead	199	DW002 KITCHEN BELOW CLOCK	P1	Copper	1,850
Lead	243	DW002 KITCHEN BELOW CLOCK	P2	Copper	2,030
Lead	34	DW002 KITCHEN BELOW CLOCK	F01	Copper	540
Lead	ND	DW002 KITCHEN BELOW CLOCK	F02	Copper	80
Lead	285	KC003 NEXT TO BREAD MIXER	P1	Copper	960
Lead	107	KC003 NEXT TO BREAD MIXER	P2	Copper	2,740
Lead	42	KC003 NEXT TO BREAD MIXER	F01	Copper	1,900
Lead	3	KC003 NEXT TO BREAD MIXER	F02	Copper	290
Lead	ND	KC004 NEXT TO ICE MACHINE	P1	Copper	140
Lead	1	KC004 NEXT TO ICE MACHINE	P2	Copper	280
Lead	ND	KC004 NEXT TO ICE MACHINE	F01	Copper	120
Lead	ND	KC004 NEXT TO ICE MACHINE	F02	Copper	150
Lead	ND	KC005 NEXT TO ICE MACHINE	P1	Copper	180
Lead	ND	KC005 NEXT TO ICE MACHINE	P2	Copper	290
Lead	ND	KC005 NEXT TO ICE MACHINE	F01	Copper	140
Lead	ND	KC005 NEXT TO ICE MACHINE	F02	Copper	80
Lead	ND	KC006 ACROSS FROM OFFICE	P1	Copper	160
Lead	ND	KC006 ACROSS FROM OFFICE	P2	Copper	140
Lead	1	KC006 ACROSS FROM OFFICE	F01	Copper	110
Lead	1	KC006 ACROSS FROM OFFICE	F02	Copper	70
Lead	9	KC007 AT KETTLES	P1	Copper	230
Lead	50	KC007 AT KETTLES	P2	Copper	2,120
Lead	2	KC007 AT KETTLES	F01	Copper	ND
Lead	ND	KC007 AT KETTLES	F02	Copper	ND
Lead	4	KC008 AT KETTLES	P1	Copper	230
Lead	17	KC008 AT KETTLES	P2	Copper	450
Lead	ND	KC008 AT KETTLES	F01	Copper	ND
Lead	ND	KC008 AT KETTLES	F02	Copper	ND
Lead	ND	KC009 ACROSS FROM KETTLES	P1	Copper	160
Lead	ND	KC009 ACROSS FROM KETTLES	P2	Copper	260
Lead	ND	KC009 ACROSS FROM KETTLES	F01	Copper	100
Lead	2	KC009 ACROSS FROM KETTLES	F02	Copper	ND
Lead	ND	KC005 NEXT TO ICE MACHINE	CA1	Copper	120
Lead	4	KC005 NEXT TO ICE MACHINE	CA2	Copper	230
Lead	1	KC005 NEXT TO ICE MACHINE	CA3	Copper	130
Lead	ND	KC005 NEXT TO ICE MACHINE	CA4	Copper	80
Lead	ND	KC005 NEXT TO ICE MACHINE	CA5	Copper	60
Lead	ND	KC005 NEXT TO ICE MACHINE	CA6	Copper	ND

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Lead	ND	KC005 NEXT TO ICE MACHINE	CA9	Copper	ND
Lead	ND	KC005 NEXT TO ICE MACHINE	CA10	Copper	ND
Lead	2	KC007 AT KETTLES	CB1	Copper	60
Lead	ND	KC007 AT KETTLES	CB2	Copper	ND
Lead	ND	KC007 AT KETTLES	CB3	Copper	ND
Lead	ND	KC007 AT KETTLES	CB4	Copper	ND
Lead	ND	KC007 AT KETTLES	CB5	Copper	ND
Lead	ND	KC007 AT KETTLES	CB6	Copper	ND
Lead	ND	KC007 AT KETTLES	CB7	Copper	ND
Lead	ND	KC007 AT KETTLES	CB8	Copper	ND
Lead	ND	KC007 AT KETTLES	CB9	Copper	ND
Lead	ND	KC007 AT KETTLES	CB10	Copper	ND

Non-detected (ND) means; for lead the amount in water is less than 1 pbb and for copper the amount in water is less than 50 pbb.

Flint Community Schools Central Kitchen

January 24, 2017

Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	KC001 BREAK ROOM	P1	Copper	ND
Lead	ND	DW002 KITCHEN BELOW CLOCK	P1	Copper	570
Lead	7	KC003 NEXT TO BREAD MIXER	P1	Copper	190
Lead	ND	KC004 NEXT TO ICE MACHINE	P1	Copper	280
Lead	ND	KC005 NEXT TO ICE MACHINE	P1	Copper	340
Lead	ND	KC006 ACROSS FROM OFFICE	P1	Copper	160
Lead	ND	KC007 AT KETTLES	P1	Copper	960
Lead	ND	KC008 AT KETTLES	P1	Copper	70
Lead	ND	KC009 ACROSS FROM KETTLES	P1	Copper	130

Non-detected (ND) means; for lead the amount in water is less than

1 pbb and for copper the amount in water is less than 50 pbb.