

POST-FIXTURE REPLACEMENT SAMPLING RESULTS REPORT

Summerfield Academy



December 28, 2016

INTRODUCTION

During the month of April, 2016, the Department of Licensing and Regulatory Affairs (DLARA) completed replacement of drinking water fixtures at Summerfield Academy. 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, April 23, 2016, the DLARA and the Department of Environmental Quality 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 in Flint daycares and schools. This work began in July, 2016.

Water Main Description

An internal inspection of the building yielded a four-inch ductile iron pipe flanged to three-inch copper piping.

SAMPLING METHODS

Fixture Sampling

There are 33 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

- One hundred and thirty-two samples from the 33 fixtures were collected and sent to the lab for analysis.
- Ninety samples from nine specific fixtures were collected to test the deeper part of the plumbing system and sent to the lab for analysis.

SAMPLING RESULTS

Post-Fixture Replacement

April 23, 2016
Of the 222 samples:

- Lead Range: Not detected (ND) to 19 parts per billion (ppb)
- Copper Range: ND to 760 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.

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	3	001CF001 ROOM 10	P1	Copper	140
Lead	1	001CF001 ROOM 10	P2	Copper	210
Lead	1	001CF001 ROOM 10	F01	Copper	60
Lead	ND	001CF001 ROOM 10	F02	Copper	50
Lead	1	001DW002 ROOM 10	P1	Copper	100
Lead	ND	001DW002 ROOM 10	P2	Copper	ND
Lead	ND	001DW002 ROOM 10	F01	Copper	ND
Lead	ND	001DW002 ROOM 10	F02	Copper	ND
Lead	ND	001DW003 ROOM 11	P1	Copper	370
Lead	ND	001DW003 ROOM 11	P2	Copper	140
Lead	ND	001DW003 ROOM 11	F01	Copper	50
Lead	ND	001DW003 ROOM 11	F02	Copper	60
Lead	ND	001CF004 ROOM 11	P1	Copper	160
Lead	ND	001CF004 ROOM 11	P2	Copper	70
Lead	ND	001CF004 ROOM 11	F01	Copper	ND
Lead	ND	001CF004 ROOM 11	F02	Copper	ND
Lead	ND	001CF005 ROOM 12	P1	Copper	100
Lead	1	001CF005 ROOM 12	P2	Copper	190
Lead	1	001CF005 ROOM 12	F01	Copper	90
Lead	ND	001CF005 ROOM 12	F02	Copper	70
Lead	2	001DW006 ROOM 12	P1	Copper	150
Lead	ND	001DW006 ROOM 12	P2	Copper	70
Lead	ND	001DW006 ROOM 12	F01	Copper	80
Lead	ND	001DW006 ROOM 12	F02	Copper	ND
Lead	1	001DW007 ROOM 14	P1	Copper	350
Lead	2	001DW007 ROOM 14	P2	Copper	130
Lead	ND	001DW007 ROOM 14	F01	Copper	90
Lead	ND	001DW007 ROOM 14	F02	Copper	80
Lead	ND	001CF008 ROOM 14	P1	Copper	140
Lead	ND	001CF008 ROOM 14	P2	Copper	100
Lead	ND	001CF008 ROOM 14	F01	Copper	70
Lead	ND	001CF008 ROOM 14	F02	Copper	ND
Lead	18	001CF009 ROOM 15	P1	Copper	200
Lead	3	001CF009 ROOM 15	P2	Copper	290
Lead	ND	001CF009 ROOM 15	F01	Copper	100
Lead	ND	001CF009 ROOM 15	F02	Copper	70
Lead	2	001DW010 ROOM 15	P1	Copper	290
Lead	2	001DW010 ROOM 15	P2	Copper	100
Lead	ND	001DW010 ROOM 15	F01	Copper	80
Lead	ND	001DW010 ROOM 15	F02	Copper	ND
Lead	2	001DW011 ROOM 16	P1	Copper	410
Lead	ND	001DW011 ROOM 16	P2	Copper	200

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

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	001DW011 ROOM 16	F01	Copper	110
Lead	ND	001DW011 ROOM 16	F02	Copper	60
Lead	ND	001CF012 ROOM 16	P1	Copper	130
Lead	ND	001CF012 ROOM 16	P2	Copper	90
Lead	ND	001CF012 ROOM 16	F01	Copper	ND
Lead	ND	001CF012 ROOM 16	F02	Copper	ND
Lead	4	001CF013 ROOM 109A	P1	Copper	180
Lead	6	001CF013 ROOM 109A	P2	Copper	250
Lead	1	001CF013 ROOM 109A	F01	Copper	120
Lead	ND	001CF013 ROOM 109A	F02	Copper	80
Lead	2	001CF014 ROOM 109A	P1	Copper	130
Lead	1	001CF014 ROOM 109A	P2	Copper	180
Lead	ND	001CF014 ROOM 109A	F01	Copper	150
Lead	ND	001CF014 ROOM 109A	F02	Copper	60
Lead	ND	001WC015 RIGHT OF CUSTODIAL ROOM	P1	Copper	760
Lead	1	001WC015 RIGHT OF CUSTODIAL ROOM	P2	Copper	740
Lead	ND	001WC015 RIGHT OF CUSTODIAL ROOM	F01	Copper	140
Lead	ND	001WC015 RIGHT OF CUSTODIAL ROOM	F02	Copper	80
Lead	1	001CF016 ROOM 102	P1	Copper	150
Lead	5	001CF016 ROOM 102	P2	Copper	120
Lead	ND	001CF016 ROOM 102	F01	Copper	90
Lead	ND	001CF016 ROOM 102	F02	Copper	ND
Lead	6	001DW017 ROOM 103	P1	Copper	190
Lead	2	001DW017 ROOM 103	P2	Copper	80
Lead	1	001DW017 ROOM 103	F01	Copper	70
Lead	ND	001DW017 ROOM 103	F02	Copper	ND
Lead	ND	001CF018 ROOM 103	P1	Copper	100
Lead	1	001CF018 ROOM 103	P2	Copper	90
Lead	ND	001CF018 ROOM 103	F01	Copper	ND
Lead	ND	001CF018 ROOM 103	F02	Copper	ND
Lead	ND	001CF019 ROOM 106	P1	Copper	110
Lead	ND	001CF019 ROOM 106	P2	Copper	160
Lead	ND	001CF019 ROOM 106	F01	Copper	100
Lead	ND	001CF019 ROOM 106	F02	Copper	ND
Lead	3	001DW020 ROOM 104	P1	Copper	300
Lead	ND	001DW020 ROOM 104	P2	Copper	60
Lead	ND	001DW020 ROOM 104	F01	Copper	ND
Lead	ND	001DW020 ROOM 104	F02	Copper	ND
Lead	1	001CF021 ROOM 104	P1	Copper	140
Lead	1	001CF021 ROOM 104	P2	Copper	70
Lead	ND	001CF021 ROOM 104	F01	Copper	ND
Lead	ND	001CF021 ROOM 104	F02	Copper	ND

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

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	001CF022 ROOM 6	P1	Copper	120
Lead	ND	001CF022 ROOM 6	P2	Copper	150
Lead	ND	001CF022 ROOM 6	F01	Copper	70
Lead	ND	001CF022 ROOM 6	F02	Copper	ND
Lead	ND	001DW023 ROOM 6	P1	Copper	220
Lead	ND	001DW023 ROOM 6	P2	Copper	60
Lead	ND	001DW023 ROOM 6	F01	Copper	50
Lead	ND	001DW023 ROOM 6	F02	Copper	ND
Lead	2	001CF024 ROOM 1	P1	Copper	150
Lead	ND	001CF024 ROOM 1	P2	Copper	150
Lead	ND	001CF024 ROOM 1	F01	Copper	120
Lead	ND	001CF024 ROOM 1	F02	Copper	110
Lead	ND	001DW025 ROOM 1	P1	Copper	300
Lead	ND	001DW025 ROOM 1	P2	Copper	110
Lead	ND	001DW025 ROOM 1	F01	Copper	100
Lead	ND	001DW025 ROOM 1	F02	Copper	80
Lead	2	001DW026 ROOM 5	P1	Copper	400
Lead	ND	001DW026 ROOM 5	P2	Copper	120
Lead	ND	001DW026 ROOM 5	F01	Copper	ND
Lead	ND	001DW026 ROOM 5	F02	Copper	ND
Lead	ND	001CF027 ROOM 5	P1	Copper	90
Lead	ND	001CF027 ROOM 5	P2	Copper	60
Lead	ND	001CF027 ROOM 5	F01	Copper	ND
Lead	ND	001CF027 ROOM 5	F02	Copper	ND
Lead	2	001DW028 ROOM 2	P1	Copper	500
Lead	2	001DW028 ROOM 2	P2	Copper	340
Lead	ND	001DW028 ROOM 2	F01	Copper	80
Lead	ND	001DW028 ROOM 2	F02	Copper	80
Lead	13	001CF029 ROOM 2	P1	Copper	120
Lead	ND	001CF029 ROOM 2	P2	Copper	80
Lead	ND	001CF029 ROOM 2	F01	Copper	70
Lead	ND	001CF029 ROOM 2	F02	Copper	60
Lead	ND	001DW030 ROOM 4	P1	Copper	330
Lead	19	001DW030 ROOM 4	P2	Copper	170
Lead	ND	001DW030 ROOM 4	F01	Copper	ND
Lead	ND	001DW030 ROOM 4	F02	Copper	ND
Lead	ND	001CF031 ROOM 4	P1	Copper	60
Lead	ND	001CF031 ROOM 4	P2	Copper	100
Lead	ND	001CF031 ROOM 4	F01	Copper	ND
Lead	ND	001CF031 ROOM 4	F02	Copper	ND
Lead	1	001DW032 ROOM 3	P1	Copper	260
Lead	ND	001DW032 ROOM 3	P2	Copper	100

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

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	001DW032 ROOM 3	F01	Copper	60
Lead	ND	001DW032 ROOM 3	F02	Copper	ND
Lead	ND	001CF033 ROOM 3	P1	Copper	130
Lead	ND	001CF033 ROOM 3	P2	Copper	80
Lead	ND	001CF033 ROOM 3	F01	Copper	ND
Lead	ND	001CF033 ROOM 3	F02	Copper	ND
Lead	17	001CF001 ROOM 10	CA1	Copper	130
Lead	ND	001CF001 ROOM 10	CA2	Copper	ND
Lead	ND	001CF001 ROOM10	CA3	Copper	ND
Lead	ND	001CF001 ROOM 10	CA4	Copper	ND
Lead	ND	001CF001 ROOM 10	CA5	Copper	ND
Lead	ND	001CF001 ROOM 10	CA6	Copper	ND
Lead	ND	001CF001 ROOM 10	CA7	Copper	ND
Lead	ND	001CF001 ROOM 10	CA8	Copper	ND
Lead	ND	001CF001 ROOM 10	CA9	Copper	ND
Lead	ND	001CF001 ROOM 10	CA10	Copper	ND
Lead	ND	001DW006 ROOM 12	CB1	Copper	70
Lead	ND	001DW006 ROOM 12	CB2	Copper	ND
Lead	ND	001DW006 ROOM 12	CB3	Copper	ND
Lead	ND	001DW006 ROOM 12	CB4	Copper	ND
Lead	ND	001DW006 ROOM 12	CB5	Copper	ND
Lead	ND	001DW006 ROOM 12	CB6	Copper	ND
Lead	ND	001DW006 ROOM 12	CB7	Copper	ND
Lead	ND	001DW006 ROOM 12	CB8	Copper	ND
Lead	ND	001DW006 ROOM 12	CB9	Copper	ND
Lead	ND	001DW006 ROOM 12	CB10	Copper	ND
Lead	ND	001DW010 ROOM 15	CC1	Copper	100
Lead	ND	001DW010 ROOM 15	CC2	Copper	ND
Lead	ND	001DW010 ROOM 15	CC3	Copper	ND
Lead	ND	001DW010 ROOM 15	CC4	Copper	ND
Lead	ND	001DW010 ROOM 15	CC5	Copper	ND
Lead	ND	001DW010 ROOM 15	CC6	Copper	ND
Lead	ND	001DW010 ROOM 15	CC7	Copper	ND
Lead	ND	001DW010 ROOM 15	CC8	Copper	ND
Lead	ND	001DW010 ROOM 15	CC9	Copper	ND
Lead	ND	001DW010 ROOM 15	CC10	Copper	ND
Lead	ND	001CF014 ROOM 109A	CD1	Copper	110
Lead	ND	001CF014 ROOM 109A	CD2	Copper	70
Lead	ND	001CF014 ROOM 109A	CD3	Copper	50
Lead	ND	001CF014 ROOM 109A	CD4	Copper	ND
Lead	ND	001CF014 ROOM 109A	CD5	Copper	ND
Lead	ND	001CF014 ROOM 109A	CD6	Copper	ND

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

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	001CF014 ROOM 109A	CD7	Copper	ND
Lead	ND	001CF014 ROOM 109A	CD8	Copper	ND
Lead	ND	001CF014 ROOM 109A	CD9	Copper	ND
Lead	ND	001CF014 ROOM 109A	CD10	Copper	ND
Lead	2	001CF018 ROOM 103	CE1	Copper	90
Lead	ND	001CF018 ROOM 103	CE2	Copper	ND
Lead	ND	001CF018 ROOM 103	CE3	Copper	ND
Lead	ND	001CF018 ROOM 103	CE4	Copper	ND
Lead	ND	001CF018 ROOM 103	CE5	Copper	ND
Lead	ND	001CF018 ROOM 103	CE6	Copper	ND
Lead	ND	001CF018 ROOM 103	CE7	Copper	ND
Lead	ND	001CF018 ROOM 103	CE8	Copper	ND
Lead	ND	001CF018 ROOM 103	CE9	Copper	ND
Lead	ND	001CF018 ROOM 103	CE10	Copper	ND
Lead	4	001CF019 ROOM 106	CF1	Copper	140
Lead	ND	001CF019 ROOM 106	CF2	Copper	ND
Lead	ND	001CF019 ROOM 106	CF3	Copper	ND
Lead	ND	001CF019 ROOM 106	CF4	Copper	ND
Lead	ND	001CF019 ROOM 106	CF5	Copper	ND
Lead	ND	001CF019 ROOM 106	CF6	Copper	ND
Lead	ND	001CF019 ROOM 106	CF7	Copper	ND
Lead	ND	001CF019 ROOM 106	CF8	Copper	ND
Lead	ND	001CF019 ROOM 106	CF9	Copper	ND
Lead	ND	001CF019 ROOM 106	CF10	Copper	ND
Lead	ND	001DW023 ROOM 6	CG1	Copper	80
Lead	ND	001DW023 ROOM 6	CG2	Copper	ND
Lead	ND	001DW023 ROOM 6	CG3	Copper	ND
Lead	ND	001DW023 ROOM 6	CG4	Copper	ND
Lead	ND	001DW023 ROOM 6	CG5	Copper	ND
Lead	ND	001DW023 ROOM 6	CG6	Copper	ND
Lead	ND	001DW023 ROOM 6	CG7	Copper	ND
Lead	ND	001DW023 ROOM 6	CG8	Copper	ND
Lead	ND	001DW023 ROOM 6	CG9	Copper	ND
Lead	ND	001DW023 ROOM 6	CG10	Copper	ND
Lead	ND	001DW030 ROOM 4	CH1	Copper	80
Lead	ND	001DW030 ROOM 4	CH2	Copper	50
Lead	ND	001DW030 ROOM 4	CH3	Copper	ND
Lead	ND	001DW030 ROOM 4	CH4	Copper	ND
Lead	ND	001DW030 ROOM 4	CH5	Copper	ND
Lead	ND	001DW030 ROOM 4	CH6	Copper	ND
Lead	ND	001DW030 ROOM 4	CH7	Copper	ND
Lead	ND	001DW030 ROOM 4	CH8	Copper	ND

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

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	001DW030 ROOM 4	CH9	Copper	ND
Lead	ND	001DW030 ROOM 4	CH10	Copper	ND
Lead	ND	001DW032 ROOM 3	C11	Copper	70
Lead	ND	001DW032 ROOM 3	C12	Copper	ND
Lead	ND	001DW032 ROOM 3	C13	Copper	ND
Lead	ND	001DW032 ROOM 3	C14	Copper	ND
Lead	ND	001DW032 ROOM 3	C15	Copper	ND
Lead	ND	001DW032 ROOM 3	C16	Copper	ND
Lead	ND	001DW032 ROOM 3	C17	Copper	ND
Lead	ND	001DW032 ROOM 3	C18	Copper	ND
Lead	ND	001DW032 ROOM 3	C19	Copper	ND
Lead	ND	001DW032 ROOM 3	C110	Copper	ND

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