POST-FIXTURE REPLACEMENT SAMPLING RESULTS REPORT

Luke M. Powers Catholic High School

August 12, 2016

INTRODUCTION

During the week of April 11, 2016, the Department of Licensing and Regulatory Affairs (DLARA) completed replacement of drinking water fixtures at Luke M. Powers Catholic High School (Powers). 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 Powers.

The school had filters installed in all of their drinking water fixtures.

Water Main Description

The high school has an older area and an addition. The older area has an eight inch ductile iron water main connected to a four inch galvanized pipe to three inch copper then Schedule 80 PVC pipe and back to three inch copper pipes. In the new addition, the main is four inch ductile iron to Schedule 80 PVC pipe.

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

- Twenty-One of the fixtures sampled had to be taken after filtration because they were water coolers with in-line filters that could not be bypassed.
- Thirty-Three fixtures (132 samples) were collected and sent to the lab for analysis.
- Six unfiltered fixtures (60 samples) were selected to test the deeper part of the plumbing system and sent to the lab for analysis.

SAMPLE RESULTS

April 23, 2016
Of the 192 samples:

- Lead Range: Non-Detected (ND) to 4 parts per billion (ppb)
- Copper Range: ND to 1,250 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	ND	01WC001	P1	Copper	420
Lead	ND	01WC001	P2	Copper	130
Lead	ND	01WC001	F01	Copper	ND
Lead	ND	01WC001	F02	Copper	ND
Lead	ND	01WC002	P1	Copper	ND
Lead	ND	01WC002	P2	Copper	ND
Lead	ND	01WC002	F01	Copper	ND
Lead	ND	01WC002	F02	Copper	ND
Lead	ND	02WC003	P1	Copper	940
Lead	4	02WC003	P2	Copper	840
Lead	ND	02WC003	F01	Copper	ND
Lead	ND	02WC003	F02	Copper	ND
Lead	ND	02WC004	P1	Copper	ND
Lead	ND	02WC004	P1	Copper	ND
Lead	ND	02WC004	F01	Copper	ND
Lead	ND	02WC004	F02	Copper	ND
Lead	ND	03WC005	P1	Copper	730
Lead	ND	03WC005	P2	Copper	470
Lead	ND	03WC005	F01	Copper	ND
Lead	ND	03WC005	F02	Copper	ND
Lead	ND	03WC006	P1	Copper	ND
Lead	ND	03WC006	P2	Copper	ND
Lead	ND	03WC006	F01	Copper	ND
Lead	ND	03WC006	F02	Copper	ND
Lead	ND	04WC007	P1	Copper	750
Lead	3	04WC007	P2	Copper	290
Lead	ND	04WC007	F01	Copper	ND
Lead	ND	04WC007	F02	Copper	ND
Lead	ND	04WC008	P1	Copper	ND
Lead	ND	04WC008	P2	Copper	ND
Lead	ND	04WC008	F01	Copper	ND
Lead	ND	04WC008	F02	Copper	ND
Lead	2	04CF009	P1	Copper	140
Lead	1	04CF009	P2	Copper	ND
Lead	ND	04CF009	F01	Copper	ND
Lead	ND	04CF009	F02	Copper	150
Lead	2	04CF010	P1	Copper	150
Lead	ND	04CF010	P2	Copper	ND
Lead	ND	04CF010	F01	Copper	ND
Lead	ND	04CF010	F02	Copper	ND
Lead	1	04CF011	P1	Copper	170
Lead	ND	04CF011	P2	Copper	200
Lead	ND	04CF011	F01	Copper	60
Lead	ND	04CF011	F02	Copper	220
Lead	2	04CF012	P1	Copper	140
Lead	ND	04CF012	P2	Copper	90
Lead	ND	04CF012	F01	Copper	ND

The result of non-detected (ND) means; for lead the amount in water is less than 1 pbb, for copper the amount in water is less than 50 pbb.

Luke M. Powers Catholic High School

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	04CF012	F02	Copper	70
Lead	1	04CF013	P1	Copper	160
Lead	ND	04CF013	P2	Copper	60
Lead	ND	04CF013	F01	Copper	ND
Lead	ND	04CF013	F02	Copper	ND
Lead	1	04SP014	P1	Copper	160
Lead	ND	04SP014	P2	Copper	80
Lead	ND	04SP014	F01	Copper	50
Lead	ND	04SP014	F02	Copper	70
Lead	ND	04SP015	P1	Copper	250
Lead	ND	04SP015	P2	Copper	180
Lead	ND	04SP015	F01	Copper	ND
Lead	ND	04SP015	F02	Copper	100
Lead	ND	LLWC016	P1	Copper	1170
Lead	ND	LLWC016	P2	Copper	310
Lead	ND	LLWC016	F01	Copper	ND
Lead	ND	LLWC016	F02	Copper	ND
Lead	ND	LLWC017	P1	Copper	690
Lead	ND	LLWC017	P2	Copper	100
Lead	ND	LLWC017	F01	Copper	ND
Lead	ND	LLWC017	F02	Copper	ND
Lead	ND	LLWC018	P1	Copper	770
Lead	ND	LLWC018	P2	Copper	450
Lead	ND	LLWC018	F01	Copper	ND
Lead	ND	LLWC018	F02	Copper	ND
Lead	ND	LLWC019	P1	Copper	ND
Lead	ND	LLWC019	P2	Copper	ND
Lead	ND	LLWC019	F01	Copper	ND
Lead	ND	LLWC019	F02	Copper	ND
Lead	ND	LLWC020	P1	Copper	1110
Lead	ND	LLWC020	P2	Copper	160
Lead	ND	LLWC020	F01	Copper	ND
Lead	ND	LLWC020	F02	Copper	ND
Lead	ND	LLSP021	P1	Copper	80
Lead	ND	LLSP021	P2	Copper	ND
Lead	ND	LLSP021	F01	Copper	ND
Lead	ND	LLSP021	F02	Copper	ND
Lead	ND	LLWC022	P1	Copper	730
Lead	ND	LLWC022	P2	Copper	310
Lead	ND	LLWC022	F01	Copper	ND
Lead	ND	LLWC022	F02	Copper	ND
Lead	ND	LLWC023	P1	Copper	ND
Lead	ND	LLWC023	P2	Copper	ND
Lead	1	LLWC023	F01	Copper	ND
Lead	ND	LLWC023	F02	Copper	ND
Lead	ND	LLWC024	P1	Copper	970
Lead	ND	LLWC024	P2	Copper	220

The result of non-detected (ND) means; for lead the amount in water is less than 1 pbb, for copper the amount in water is less than 50 pbb.

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April 23, 2016

Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	1	LLWC024	F01	Copper	ND
Lead	ND	LLWC024	F02	Copper	ND
Lead	ND	LLWC025	P1	Copper	420
Lead	ND	LLWC025	P2	Copper	210
Lead	ND	LLWC025	F01	Copper	ND
Lead	ND	LLWC025	F02	Copper	ND
Lead	ND	LLWC026	P1	Copper	790
Lead	ND	LLWC026	P2	Copper	220
Lead	ND	LLWC026	F01	Copper	ND
Lead	ND	LLWC026	F02	Copper	ND
Lead	ND	LLWC027	P1	Copper	1250
Lead	ND	LLWC027	P2	Copper	170
Lead	ND	LLWC027	F01	Copper	ND
Lead	ND	LLWC027	F02	Copper	ND
Lead	ND	01WC028	P1	Copper	700
Lead	ND	01WC028	P2	Copper	200
Lead	ND	01WC028	F01	Copper	ND
Lead	ND	01WC028	F02	Copper	ND
Lead	ND	01WC029	P1	Copper	ND
Lead	ND	01WC029	P2	Copper	ND
Lead	ND	01WC029	F01	Copper	ND
Lead	ND	01WC029	F02	Copper	ND
Lead	ND	01KC030	P1	Copper	100
Lead	ND	01KC030	P2	Copper	350
Lead	ND	01KC030	F01	Copper	ND
Lead	ND	01KC030	F02	Copper	ND
Lead	ND	01KC031	P1	Copper	100
Lead	1	01KC031	P2	Copper	ND
Lead	ND	01KC031	F01	Copper	ND
Lead	ND	01KC031	F02	Copper	ND
Lead	1	02KC032	P1	Copper	240
Lead	ND	02KC032	P2	Copper	ND
Lead	ND	02KC032	F01	Copper	ND
Lead	ND	02KC032	F02	Copper	ND
Lead	ND	02KC033	P1	Copper	110
Lead	ND	02KC033	P2	Copper	ND
Lead	ND	02KC033	F01	Copper	ND
Lead	ND	02KC033	F02	Copper	ND
Lead	ND	04CF009	CA1	Copper	120
Lead	ND	04CF009	CA2	Copper	140
Lead	ND	04CF009	CA3	Copper	230
Lead	ND	04CF009	CA4	Copper	250
Lead	ND	04CF009	CA5	Copper	230
Lead	ND	04CF009	CA6	Copper	210
Lead	ND	04CF009	CA7	Copper	210
Lead	ND	04CF009	CA8	Copper	210
Lead	ND	04CF009	CA9	Copper	220

The result of non-detected (ND) means; for lead the amount in water is less than 1 pbb, for copper the amount in water is less than 50 pbb.

Luke M. Powers Catholic High School

April 23, 2016

Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	04CF009	CA10	Copper	210
Lead	ND	04CF010	CB1	Copper	ND
Lead	ND	04CF010	CB2	Copper	ND
Lead	ND	04CF010	CB3	Copper	50
Lead	ND	04CF010	CB4	Copper	90
Lead	ND	04CF010	CB5	Copper	100
Lead	ND	04CF010	CB6	Copper	100
Lead	ND	04CF010	CB7	Copper	110
Lead	ND	04CF010	CB8	Copper	110
Lead	ND	04CF010	CB9	Copper	120
Lead	ND	04CF010	CB10	Copper	150
Lead	ND	04SP015	CC1	Copper	110
Lead	ND	04SP015	CC2	Copper	90
Lead	ND	04SP015	CC3	Copper	110
Lead	ND	04SP015	CC4	Copper	120
Lead	ND	04SP015	CC5	Copper	140
Lead	ND	04SP015	CC6	Copper	150
Lead	ND	04SP015	CC7	Copper	160
Lead	ND	04SP015	CC8	Copper	160
Lead	ND	04SP015	CC9	Copper	160
Lead	ND	04SP015	CC10	Copper	170
Lead	ND	LLSP021	CD1	Copper	ND
Lead	ND	LLSP021	CD2	Copper	ND
Lead	ND	LLSP021	CD3	Copper	ND
Lead	ND	LLSP021	CD4	Copper	ND
Lead	ND	LLSP021	CD5	Copper	ND
Lead	ND	LLSP021	CD6	Copper	ND
Lead	ND	LLSP021	CD7	Copper	ND
Lead	ND	LLSP021	CD8	Copper	ND
Lead	ND	LLSP021	CD9	Copper	ND
Lead	ND	LLSP021	CD10	Copper	ND
Lead	ND	01KC030	CE1	Copper	ND
Lead	ND	01KC030	CE2	Copper	ND
Lead	ND	01KC030	CE3	Copper	ND
Lead	ND	01KC030	CE4	Copper	ND
Lead	ND	01KC030	CE5	Copper	ND
Lead	ND	01KC030	CE6	Copper	ND
Lead	ND	01KC030	CE7	Copper	ND
Lead	ND	01KC030	CE8	Copper	ND
Lead	ND	01KC030	CE9	Copper	ND
Lead	ND	01KC030	CE10	Copper	ND
Lead	ND	02KC033	CF1	Copper	ND
Lead	ND	02KC033	CF2	Copper	ND
Lead	ND	02KC033	CF3	Copper	ND
Lead	ND	02KC033	CF4	Copper	ND
Lead	ND	02KC033	CF5	Copper	ND
Lead	ND	02KC033	CF6	Copper	ND

The result of non-detected (ND) means; for lead the amount in water is less than 1 pbb, for copper the amount in water is less than 50 pbb.

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April 23, 2016

Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	02KC033	CF7	Copper	ND
Lead	ND	02KC033	CF8	Copper	ND
Lead	ND	02KC033	CF9	Copper	ND
Lead	ND	02KC033	CF10	Copper	ND

The result of non-detected (ND) means; for lead the amount in water is less than 1 pbb, for copper the amount in water is less than 50 pbb.