

POST-FIXTURE REPLACEMENT SAMPLING RESULTS REPORT

McFarlan Home



September 22, 2016

INTRODUCTION

During the week of April 24, 2016, the Department of Licensing and Regulatory Affairs completed replacement of drinking water fixtures at McFarlan Home. 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 material from the building's water supply system.

On Saturday, April 30, 2016, the DLARA and the Department of Environmental Quality conducted a post-fixture sampling assessment of the plumbing system at the facility.

Water Main Description

An inspection from inside the building yielded a six inch ductile iron water service main, and two inch copper distribution through the facility.

SAMPLING METHODS

Fixture Sampling

There are 50 drinking water fixtures that were identified at the facility. 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

- The standard 'Fixture Sampling Method' with the minimum six-hour stagnation period was not possible for this facility due to the

residents' consistent water use needs. Sampling is representative of usual water use at the facility.

- Two hundred samples from fifty fixtures were collected and sent to the lab for analysis.
- Eight fixtures were selected to test the deeper part of the plumbing system. For this method 80 samples were collected and sent to the lab for analysis.

SAMPLING RESULTS

Post-Fixture Replacement

April 30, 2016
Of the 280 samples:

- Lead Range: Non-Detected (ND) to 163 parts per billion (ppb)
- Copper Range: ND to 470 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	01KC001 KITCHEN	P1	Copper	110
Lead	ND	01KC001 KITCHEN	P2	Copper	50
Lead	ND	01KC001 KITCHEN	F01	Copper	60
Lead	ND	01KC001 KITCHEN	F02	Copper	70
Lead	6	02KC002 KITCHEN	P1	Copper	230
Lead	1	02KC002 KITCHEN	P2	Copper	420
Lead	4	02KC002 KITCHEN	F01	Copper	300
Lead	ND	02KC002 KITCHEN	F02	Copper	ND
Lead	4	02BF003 BATH	P1	Copper	90
Lead	5	02BF003 BATH	P2	Copper	90
Lead	ND	02BF003 BATH	F01	Copper	ND
Lead	ND	02BF003 BATH	F02	Copper	ND
Lead	ND	02BF004 BATH	P1	Copper	110
Lead	ND	02BF004 BATH	P2	Copper	ND
Lead	ND	02BF004 BATH	F01	Copper	ND
Lead	ND	02BF004 BATH	F02	Copper	ND
Lead	ND	02KC005 KITCHEN	P1	Copper	140
Lead	ND	02KC005 KITCHEN	P2	Copper	170
Lead	ND	02KC005 KITCHEN	F01	Copper	ND
Lead	ND	02KC005 KITCHEN	F02	Copper	ND
Lead	5	02BF006 BATH	P1	Copper	140
Lead	11	02BF006 BATH	P2	Copper	210
Lead	1	02BF006 BATH	F01	Copper	170
Lead	ND	02BF006 BATH	F02	Copper	50
Lead	5	02KC007 KITCHEN	P1	Copper	340
Lead	3	02KC007 KITCHEN	P2	Copper	450
Lead	4	02KC007 KITCHEN	F01	Copper	230
Lead	ND	02KC007 KITCHEN	F02	Copper	ND
Lead	3	02BF008	P1	Copper	120
Lead	3	02BF008	P2	Copper	130
Lead	ND	02BF008	F01	Copper	100
Lead	ND	02BF008	F02	Copper	ND
Lead	2	02KC009 KITCHEN	P1	Copper	220
Lead	4	02KC009 KITCHEN	P2	Copper	290
Lead	3	02KC009 KITCHEN	F01	Copper	170
Lead	ND	02KC009 KITCHEN	F02	Copper	ND
Lead	4	01BF010 BATH	P1	Copper	110
Lead	3	01BF010 BATH	P2	Copper	70
Lead	ND	01BF010 BATH	F01	Copper	ND
Lead	ND	01BF010 BATH	F02	Copper	ND
Lead	ND	01BF011 BATH	P1	Copper	130
Lead	ND	01BF011 BATH	P2	Copper	60
Lead	ND	01BF011 BATH	F01	Copper	ND
Lead	ND	01BF011 BATH	F02	Copper	ND
Lead	118	01KC012 KITCHEN	P1	Copper	130
Lead	17	01KC012 KITCHEN	P2	Copper	60
Lead	1	01KC012 KITCHEN	F01	Copper	ND
Lead	ND	01KC012 KITCHEN	F02	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.

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	2	02BF013 BATH	P1	Copper	60
Lead	ND	02BF013 BATH	P2	Copper	ND
Lead	ND	02BF013 BATH	F01	Copper	ND
Lead	ND	02BF013 BATH	F02	Copper	ND
Lead	ND	02BF014 BATH	P1	Copper	50
Lead	ND	02BF014 BATH	P2	Copper	ND
Lead	ND	02BF014 BATH	F01	Copper	ND
Lead	ND	02BF014 BATH	F02	Copper	ND
Lead	ND	02KC015 KITCHEN	P1	Copper	210
Lead	ND	02KC015 KITCHEN	P2	Copper	200
Lead	ND	02KC015 KITCHEN	F01	Copper	ND
Lead	ND	02KC015 KITCHEN	F02	Copper	ND
Lead	ND	02BF016 BATH	P1	Copper	70
Lead	ND	02BF016 BATH	P2	Copper	ND
Lead	ND	02BF016 BATH	F01	Copper	ND
Lead	ND	02BF016 BATH	F02	Copper	ND
Lead	163	02KC017 KITCHEN	P1	Copper	310
Lead	9	02KC017 KITCHEN	P2	Copper	70
Lead	ND	02KC017 KITCHEN	F01	Copper	ND
Lead	ND	02KC017 KITCHEN	F02	Copper	ND
Lead	ND	01BF018 BATH	P1	Copper	50
Lead	ND	01BF018 BATH	P2	Copper	ND
Lead	ND	01BF018 BATH	F01	Copper	ND
Lead	ND	01BF018 BATH	F02	Copper	ND
Lead	ND	01BF019 BATH	P1	Copper	60
Lead	ND	01BF019 BATH	P2	Copper	ND
Lead	ND	01BF019 BATH	F01	Copper	ND
Lead	ND	01BF019 BATH	F02	Copper	ND
Lead	ND	01KC020 KITCHEN	P1	Copper	190
Lead	ND	01KC020 KITCHEN	P2	Copper	190
Lead	ND	01KC020 KITCHEN	F01	Copper	ND
Lead	ND	01KC020 KITCHEN	F02	Copper	ND
Lead	ND	01BF021 BATH	P1	Copper	140
Lead	ND	01BF021 BATH	P2	Copper	130
Lead	ND	01BF021 BATH	F01	Copper	ND
Lead	ND	01BF021 BATH	F02	Copper	ND
Lead	ND	02BF022 BATH	P1	Copper	200
Lead	ND	02BF022 BATH	P2	Copper	110
Lead	ND	02BF022 BATH	F01	Copper	ND
Lead	ND	02BF022 BATH	F02	Copper	ND
Lead	3	0BKC023 KITCHEN	P1	Copper	200
Lead	ND	0BKC023 KITCHEN	P2	Copper	420
Lead	ND	0BKC023 KITCHEN	F01	Copper	140
Lead	ND	0BKC023 KITCHEN	F02	Copper	ND
Lead	ND	01KC024 KITCHEN	P1	Copper	110
Lead	ND	01KC024 KITCHEN	P2	Copper	150
Lead	ND	01KC024 KITCHEN	F01	Copper	100
Lead	ND	01KC024 KITCHEN	F02	Copper	70

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.

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	01BF025 BATH	P1	Copper	130
Lead	ND	01BF025 BATH	P2	Copper	50
Lead	ND	01BF025 BATH	F01	Copper	ND
Lead	ND	01BF025 BATH	F02	Copper	ND
Lead	ND	01BF026 BATH	P1	Copper	150
Lead	ND	01BF026 BATH	P2	Copper	70
Lead	ND	01BF026 BATH	F01	Copper	ND
Lead	ND	01BF026 BATH	F02	Copper	ND
Lead	ND	01BF027 BATH	P1	Copper	160
Lead	ND	01BF027 BATH	P2	Copper	100
Lead	ND	01BF027 BATH	F01	Copper	70
Lead	ND	01BF027 BATH	F02	Copper	ND
Lead	ND	02KC028 KITCHEN	P1	Copper	160
Lead	ND	02KC028 KITCHEN	P2	Copper	270
Lead	ND	02KC028 KITCHEN	F01	Copper	80
Lead	ND	02KC028 KITCHEN	F02	Copper	50
Lead	ND	02BF029 BATH	P1	Copper	170
Lead	ND	02BF029 BATH	P2	Copper	170
Lead	ND	02BF029 BATH	F01	Copper	ND
Lead	ND	02BF029 BATH	F02	Copper	ND
Lead	ND	02BF030 BATH	P1	Copper	140
Lead	ND	02BF030 BATH	P2	Copper	160
Lead	ND	02BF030 BATH	F01	Copper	100
Lead	ND	02BF030 BATH	F02	Copper	ND
Lead	ND	02BF031 BATH	P1	Copper	130
Lead	ND	02BF031 BATH	P2	Copper	70
Lead	ND	02BF031 BATH	F01	Copper	ND
Lead	ND	02BF031 BATH	F02	Copper	ND
Lead	ND	02KC032 KITCHEN	P1	Copper	290
Lead	ND	02KC032 KITCHEN	P2	Copper	330
Lead	ND	02KC032 KITCHEN	F01	Copper	260
Lead	ND	02KC032 KITCHEN	F02	Copper	90
Lead	3	02BF033 BATH	P1	Copper	190
Lead	ND	02BF033 BATH	P2	Copper	430
Lead	ND	02BF033 BATH	F01	Copper	50
Lead	ND	02BF033 BATH	F02	Copper	ND
Lead	ND	01BF034 BATH	P1	Copper	240
Lead	ND	01BF034 BATH	P2	Copper	230
Lead	ND	01BF034 BATH	F01	Copper	180
Lead	ND	01BF034 BATH	F02	Copper	60
Lead	ND	01KC035 KITCHEN	P1	Copper	210
Lead	ND	01KC035 KITCHEN	P2	Copper	60
Lead	ND	01KC035 KITCHEN	F01	Copper	ND
Lead	ND	01KC035 KITCHEN	F02	Copper	ND
Lead	ND	02KC036 KITCHEN	P1	Copper	470
Lead	ND	02KC036 KITCHEN	P2	Copper	260
Lead	ND	02KC036 KITCHEN	F01	Copper	180
Lead	ND	02KC036 KITCHEN	F02	Copper	120

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.

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	02BF037 BATH	P1	Copper	360
Lead	ND	02BF037 BATH	P2	Copper	300
Lead	ND	02BF037 BATH	F01	Copper	60
Lead	ND	02BF037 BATH	F02	Copper	ND
Lead	ND	02KC038 KITCHEN	P1	Copper	220
Lead	ND	02KC038 KITCHEN	P2	Copper	120
Lead	ND	02KC038 KITCHEN	F01	Copper	110
Lead	ND	02KC038 KITCHEN	F02	Copper	80
Lead	ND	02BF039 BATH	P1	Copper	230
Lead	ND	02BF039 BATH	P2	Copper	140
Lead	ND	02BF039 BATH	F01	Copper	70
Lead	ND	02BF039 BATH	F02	Copper	60
Lead	ND	01BF040 BATH	P1	Copper	210
Lead	ND	01BF040 BATH	P2	Copper	260
Lead	ND	01BF040 BATH	F01	Copper	260
Lead	ND	01BF040 BATH	F02	Copper	80
Lead	1	01KC041 KITCHEN	P1	Copper	190
Lead	ND	01KC041 KITCHEN	P2	Copper	80
Lead	ND	01KC041 KITCHEN	F01	Copper	80
Lead	ND	01KC041 KITCHEN	F02	Copper	70
Lead	ND	02BF042 BATH	P1	Copper	150
Lead	ND	02BF042 BATH	P2	Copper	230
Lead	ND	02BF042 BATH	F01	Copper	110
Lead	ND	02BF042 BATH	F02	Copper	60
Lead	1	02KC043 KITCHEN	P1	Copper	370
Lead	ND	02KC043 KITCHEN	P2	Copper	90
Lead	ND	02KC043 KITCHEN	F01	Copper	70
Lead	ND	02KC043 KITCHEN	F02	Copper	90
Lead	ND	01KC044 KITCHEN	P1	Copper	310
Lead	ND	01KC044 KITCHEN	P2	Copper	240
Lead	ND	01KC044 KITCHEN	F01	Copper	160
Lead	ND	01KC044 KITCHEN	F02	Copper	70
Lead	ND	01BF045 BATH	P1	Copper	230
Lead	ND	01BF045 BATH	P2	Copper	240
Lead	ND	01BF045 BATH	F01	Copper	90
Lead	ND	01BF045 BATH	F02	Copper	60
Lead	ND	02KC046 KITCHEN	P1	Copper	310
Lead	ND	02KC046 KITCHEN	P2	Copper	340
Lead	ND	02KC046 KITCHEN	F01	Copper	230
Lead	ND	02KC046 KITCHEN	F02	Copper	70
Lead	1	02BF047 BATH	P1	Copper	170
Lead	ND	02BF047 BATH	P2	Copper	440
Lead	ND	02BF047 BATH	F01	Copper	70
Lead	ND	02BF047 BATH	F02	Copper	70
Lead	2	02BF048 BATH	P1	Copper	90
Lead	ND	02BF048 BATH	P2	Copper	60
Lead	ND	02BF048 BATH	F01	Copper	ND
Lead	ND	02BF048 BATH	F02	Copper	ND

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.

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	4	02BF049 BATH	P1	Copper	100
Lead	1	02BF049 BATH	P2	Copper	80
Lead	ND	02BF049 BATH	F01	Copper	60
Lead	ND	02BF049 BATH	F02	Copper	ND
Lead	ND	02KC050 KITCHEN	P1	Copper	90
Lead	ND	02KC050 KITCHEN	P2	Copper	ND
Lead	ND	02KC050 KITCHEN	F01	Copper	ND
Lead	ND	02KC050 KITCHEN	F02	Copper	ND
Lead	ND	01KC001	B 1	Copper	120
Lead	ND	01KC001	B 2	Copper	120
Lead	ND	01KC001	B 3	Copper	110
Lead	ND	01KC001	B 4	Copper	60
Lead	ND	01KC001	B 5	Copper	ND
Lead	ND	01KC001	B 6	Copper	ND
Lead	ND	01KC001	B 7	Copper	ND
Lead	ND	01KC001	B 8	Copper	ND
Lead	ND	01KC001	B 9	Copper	ND
Lead	ND	01KC001	B 10	Copper	ND
Lead	3	02KC002	H-1	Copper	280
Lead	3	02KC002	H-2	Copper	150
Lead	ND	02KC002	H-3	Copper	50
Lead	ND	02KC002	H-4	Copper	ND
Lead	ND	02KC002	H-5	Copper	ND
Lead	ND	02KC002	H-6	Copper	ND
Lead	ND	02KC002	H-7	Copper	ND
Lead	ND	02KC002	H-8	Copper	ND
Lead	ND	02KC002	H-9	Copper	ND
Lead	ND	02KC002	H-10	Copper	ND
Lead	ND	01KC020	D 1	Copper	90
Lead	ND	01KC020	D 2	Copper	ND
Lead	ND	01KC020	D 3	Copper	ND
Lead	ND	01KC020	D 4	Copper	ND
Lead	ND	01KC020	D 5	Copper	ND
Lead	ND	01KC020	D 6	Copper	ND
Lead	ND	01KC020	D 7	Copper	ND
Lead	ND	01KC020	D 8	Copper	ND
Lead	ND	01KC020	D 9	Copper	ND
Lead	ND	01KC020	D 10	Copper	ND
Lead	ND	0BKC023	A 1	Copper	150
Lead	ND	0BKC023	A 2	Copper	60
Lead	ND	0BKC023	A 3	Copper	ND
Lead	ND	0BKC023	A 4	Copper	ND
Lead	ND	0BKC023	A 5	Copper	ND
Lead	ND	0BKC023	A 6	Copper	ND
Lead	ND	0BKC023	A 7	Copper	ND
Lead	ND	0BKC023	A 8	Copper	ND
Lead	ND	0BKC023	A 9	Copper	ND
Lead	ND	0BKC023	A 10	Copper	ND

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.

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Lead	Result (ppb)	Sample Description	Site Code	Copper	Result (ppb)
Lead	ND	02KC032	F 1	Copper	190
Lead	ND	02KC032	F 2	Copper	140
Lead	ND	02KC032	F 3	Copper	60
Lead	ND	02KC032	F 4	Copper	50
Lead	ND	02KC032	F 5	Copper	50
Lead	ND	02KC032	F 6	Copper	50
Lead	ND	02KC032	F 7	Copper	ND
Lead	ND	02KC032	F 8	Copper	ND
Lead	ND	02KC032	F 9	Copper	ND
Lead	ND	02KC032	F 10	Copper	ND
Lead	ND	01KC035	C 1	Copper	100
Lead	ND	01KC035	C 2	Copper	80
Lead	ND	01KC035	C 3	Copper	ND
Lead	ND	01KC035	C 4	Copper	ND
Lead	ND	01KC035	C 5	Copper	ND
Lead	ND	01KC035	C 6	Copper	ND
Lead	ND	01KC035	C 7	Copper	ND
Lead	ND	01KC035	C 8	Copper	ND
Lead	ND	01KC035	C 9	Copper	ND
Lead	ND	01KC035	C 10	Copper	ND
Lead	ND	01KC044	E 1	Copper	110
Lead	ND	01KC044	E 2	Copper	100
Lead	ND	01KC044	E 3	Copper	90
Lead	ND	01KC044	E 4	Copper	80
Lead	ND	01KC044	E 5	Copper	60
Lead	ND	01KC044	E 6	Copper	60
Lead	ND	01KC044	E 7	Copper	50
Lead	ND	01KC044	E 8	Copper	ND
Lead	ND	01KC044	E 9	Copper	ND
Lead	ND	01KC044	E 10	Copper	ND
Lead	ND	02KC046	G 1	Copper	160
Lead	ND	02KC046	G 2	Copper	100
Lead	ND	02KC046	G 3	Copper	70
Lead	ND	02KC046	G 4	Copper	60
Lead	ND	02KC046	G 5	Copper	60
Lead	ND	02KC046	G 6	Copper	60
Lead	ND	02KC046	G 7	Copper	60
Lead	ND	02KC046	G 8	Copper	60
Lead	ND	02KC046	G-9	Copper	60
Lead	ND	02KC046	G-10	Copper	60

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.