EISENHOWER ELEMENTARY SCHOOL

Outlet Sampling and Plumbing Assessment Recommendations

1235 Pershing Street, Flint, Michigan 48503



BACKGROUND INFORMATION

On Friday, October 30, 2015, the Department of Licensing and Regulatory Affairs (DLARA) and the Department of Environmental Quality (DEQ) conducted an assessment of Eisenhower Elementary School's plumbing system to gain a comprehensive understanding of how water moves through the building and what types of plumbing materials are used. Two outlet buildings in addition to the main school building were included in the assessment. The assessment identified the following potential sources of lead leaching into drinking water:

- · Lead solder joints on copper piping
- · Brass valves and brass fittings
- Brass components in fixtures
- · Galvanized piping

The assessment also identified 43 faucets or fountains that provide water for drinking, cooking, and/or food preparation, 37 faucets/fountains in the main school building, four faucets/fountains in out building unit 1, and two faucets/fountains in out building unit 2. The team developed a sequence for sampling the faucets/fountains in each building based on how the water travels through each building.

On Saturday, October 31, 2015, the DEQ and the DLARA completed sampling of the 37 faucets/fountains in the main school building, the four faucets/fountains in out building unit 1, and the two faucets/fountains in out building unit 2, each in the order determined by the plumbing assessment from the previous day, following a stagnation period of over 12 hours. At each of the 43 faucets/fountains identified, staff collected four samples. Two initial, 125-milliliter samples (P1 and P2), were collected immediately after turning on the tap. The water was then flushed for 30 seconds and a third, 125-milliliter sample (F01) was collected. Finally, the water was flushed for another two minutes, and the fourth 125-milliliter sample (F02) was collected. These samples were used to determine the impact of any lead sources in and around each specific faucet/fountain and its connecting plumbing.

The DEQ and the DLARA then completed consecutive sampling at three of the 37 faucets/fountains in the main school building, one of the four faucets/fountains in out building unit 1, and one of the two faucets/fountains in out building unit 2, five sites in total. This consecutive sampling was used to determine the impact of any lead sources located deep in the supply plumbing at each of these buildings. The three sites in the main school building included one site near the building service line, one site near the plumbing mid-point, and one site at the far end of the plumbing system. At each of these five sites, staff collected 10, 1-liter samples. The 10 samples were collected immediately after turning on the tap, and consecutively, without any flushing time in between.

WATER SERVICE INFORMATION

A four-inch diameter cast iron water service line enters the main school building in the boiler room northwest wall located in the west corner of the building. Piping in the boiler room immediately transitions into galvanized metal piping for cold water lines. Three separate galvanized cold water supply lines exit the boiler room. One in the north corner serves a single hose bib directly outside the boiler room. A second line exits the southeast wall and serves the adjacent janitors closet and dressing room bathrooms. The third line exits the boiler room on the northeast side through a utility tunnel that runs below the school hallways and serves all rooms in the main school building. This supply line then runs between the first and second floors on the southeast end of

the building. Copper piping with lead solder joints branches off of the galvanized supply line for cold water supply to each room. Hot water is distributed in continuous loops that feed from and return to a central water heater in the boiler room. Hot water piping material, where exposed, was copper piping with lead solder joints. Brass valves were seen throughout the building.

Out building unit 1 has a separate customer service line from the City water main constructed using copper piping material. The service line comes out of the ground beneath the building and within the building is copper pipe with lead free solder joints.

Out building unit 2 has a separate customer service line from the City water main constructed using copper piping material. The service line comes out of the ground beneath the building and within the building is copper pipe with lead free solder joints.

Outlets With Lead Levels Greater Than 15 Parts per Billion

The DEQ recommends school facilities take action if samples from any drinking water outlets show lead levels greater than 15 parts per billion. Based on the sampling conducted at 43 faucets/fountains on October 31, 2015, the following 18 drinking water outlets had lead water level results greater than 15 parts per billion. Each of these 18 outlets is listed below with its sample results, including a description of the potential source(s) of lead, and recommended actions for the school to take.

Outlet: Bubbler Drinking Fountain (01DW001)

Location: West corner, Gymnasium Multipurpose Room
Results: P1=32 parts per billion, P2=6 parts per billion
F01=5 parts per billion, F02=3 parts per billion

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass and is believed to have a brass valve. The connection piping with the unit may also contain some brass components.

Replacement of this bubbler tap and its connection plumbing with leadfree materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.



Outlet: Water Cooler Fountain (01WC002)

Location: Hallway between Gym and Auditorium, northeast side

Results: P1=17 parts per billion, P2=17 parts per billion

F01=12 parts per billion, F02=3 parts per billion

These results suggest the highest contribution of lead may be from the water cooler unit. The water cooler is an Elkay model LKEZFS8. This model contains some brass components. Connecting plumbing to the cooler unit may also contain brass components.

Replacement of the entire unit is recommended and will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.





Outlet: Sink Faucet (01CF004)

Location: Classroom 109, northwest wall

Results: P1=17 parts per billion, P2=10 parts per billion

F01=1 part per billion, F02=2 parts per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Hot and cold water lines connect to this faucet with a brass mixer fitting under the sink. Connecting plumbing in the cabinet under the sink may also contain additional brass components.

Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.



Outlet: Bubbler Fountain (02DW020)

Location: Classroom 201, southeast wall

Results: P1=37 parts per billion, P2=24 parts per billion

F01=2 parts per billion, F02=non-detect

These results suggest the highest contribution of lead may be from the bubbler and its connecting plumbing. This bubbler fixture is made of chrome plated brass and has a brass connector on the underside of the sink. The bubbler also has a chrome plated brass flow regulator installed between the operating valve and the outlet. The connecting plumbing is copper with lead solder and includes a brass shut off valve.



Replacement of this bubbler tap and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Sink Faucet (02CF022)

Location: Classroom 202, northwest wall

Results: P1=7 parts per billion, P2=24 parts per billion

F01=2 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Connecting plumbing in the cabinet under the sink is made up of brass connectors; copper piping with lead solder and brass shut off valves.



Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Fountain (01DW013)

Location: Classroom 104, southwest wall

Results: P1=43 parts per billion, P2=106 parts per billion F01=3 parts per billion, F02=2 parts per billion

These results suggest the highest contribution of lead may be from the bubbler and its connecting plumbing. This bubbler fixture is made of chrome plated brass and has a brass connector on the underside of the sink. Connecting plumbing in the cabinet under the sink is made up of brass connectors; copper piping with lead solder, and a brass shut off valve.



Replacement of this bubbler tap and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Sink Faucet (01CF014)

Location: Classroom 104, southwest wall

Results: P1=36 parts per billion, P2=36 parts per billion F01=2 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Connecting plumbing in the cabinet under the sink is made up of brass connectors; copper piping with lead solder and brass shut off valves.



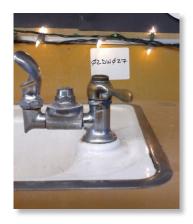
Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Fountain (02DW027)

Location: Classroom 204, southwest wall

Results: P1=18 parts per billion, P2=8 parts per billion F01=2 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the bubbler and its connecting plumbing. This bubbler fixture is made of chrome plated brass and has a brass connector on the underside of the sink. The bubbler also has a chrome plated brass flow regulator installed between the operating valve and the outlet. The connecting plumbing is copper with lead solder and includes a brass shut off valve.



Replacement of this bubbler tap and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Fountain (02DW029)

Location: Classroom 205, northeast wall

Results: P1=39 parts per billion, P2=14 parts per billion

F01=11 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the bubbler and its connecting plumbing. This bubbler fixture is made of chrome plated brass and has a brass connector on the underside of the sink. Connecting plumbing in the cabinet under the sink is made up of brass connectors and copper piping with lead solder.



Replacement of this bubbler tap and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Fountain (02DW031)

Location: Classroom 206, southwest wall

Results: P1=84 parts per billion, P2=7 parts per billion

F01=1 part per billion, F02=non-detect

These results suggest the highest contribution of lead may be from the bubbler and its connecting plumbing. This bubbler fixture is made of chrome plated brass and has a brass connector on the underside of the sink. The bubbler also has a chrome plated brass flow regulator installed between the operating valve and the outlet. Connecting plumbing in the cabinet under the sink should be checked for brass components and copper piping with lead solder.



Replacement of this bubbler tap and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Sink Faucet (01CF016)

Location: Classroom 106, northeast wall

Results: P1=402 parts per billion, P2=61 parts per billion

F01=4 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Connecting plumbing in the cabinet under the sink is partly made up of brass connectors; copper piping with lead solder, and brass shut off valves.



Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Sink Faucet (02CF032)

Location: Classroom 207, northeast wall

Results: P1=21 parts per billion, P2=23 parts per billion F01=5 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Connecting plumbing in the cabinet under the sink is partly made up of brass connectors; copper piping with lead solder, and brass shut off valves.



Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Fountain (02DW033)

Location: Classroom 207, northeast wall

Results: P1=20 parts per billion, P2=4 parts per billion

F01=3 parts per billion, F02=3 parts per billion

These results suggest the highest contribution of lead may be from the bubbler and its connecting plumbing. Parts of this bubbler fixture are made of brass and it has a brass connector on the underside of the sink. Connecting plumbing in the cabinet under the sink is partly made up of brass connectors; copper piping with lead solder, and a brass shut off valve.



Replacement of this bubbler tap and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Fountain (02DW035)

Location: Classroom 208, southwest wall

Results: P1=12 parts per billion, P2=19 parts per billion

F01=6 parts per billion, F02=3 parts per billion

These results suggest the highest contribution of lead may be from the bubbler and its connecting plumbing. This bubbler fixture is made of chrome plated brass and has a brass connector on the underside of the sink. Connecting plumbing in the cabinet under the sink should be checked for brass components and copper piping with lead solder.

Replacement of this bubbler tap and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.



Location: Classroom 208, southwest wall

Results: P1=19 parts per billion, P2=12 parts per billion

F01=3 parts per billion, F02=2 parts per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Connecting plumbing in the cabinet under the sink should be checked for brass components and copper piping with lead solder.

NO IMAGE AVAILABLE

Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Kitchen Faucet (01KC019)

Location: Room 108, southwest wall

Results: P1=17 parts per billion, P2=5 parts per billion

F01=4 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. This fixture appears to be a Delta two handled faucet. This model faucet typically has a brass tube in its deck body and may contain some additional brass components. Connecting plumbing in the cabinet under the sink should be checked for brass components and copper piping with lead solder.



Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

This faucet also has an aerator/screen at the outlet. If the faucet is not replaced, the aerator/screen should be removed, inspected for particulate accumulations, scrubbed clean, and reinstalled. If particulates are found, the aerator/screen should be periodically checked and cleaned.

Outlet: Sink Faucet (02CF036)

Location: Classroom 209, southwest wall

Results: P1=7 parts per billion, P2=21 parts per billion

F01=5 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Hot and cold water lines connect to this faucet with a brass mixer fitting under the sink. Connecting plumbing in the cabinet under the sink may also contain additional brass connectors and copper plumbing with lead solder.



Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Kitchen Faucet, Left (04KC043)

Location: Outbuilding Unit 2 DHHS Office

Results: P1=17 parts per billion, P2=3 parts per billion

F01=2 parts per billion, F02=3 parts per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The faucet is a Delta 400. This model faucet valve has brass components. This style faucet also has a mixing valve that may allow mixing of hot and cold water. Connecting plumbing in the cabinet under the sink may also contain brass components.



Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for 3 minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlets With Lead Levels 15 Parts per Billion or Less

While the remaining 25 outlets showed sample results to be at levels requiring no further action, several recommendations have been identified.

The fourth sample (F02) at all 43 outlets following approximately 3 minutes of use and flushing at a reduced flow resulted in reduced lead concentrations of 3 parts per billion or less. This indicates that flushing of all taps used for drinking, cooking, and/or food preparation for 4 minutes following periods of stagnation will further reduce lead exposure. It is recommended that a flushing operational procedure be developed for use by staff responsible for plumbing operations and maintenance with emphasis on flushing after weekends and holidays.

Seventeen of these twenty five outlets are comprised of similar materials as the outlets listed above and could potentially experience higher lead levels under extended periods of stagnation. These faucets/fountains include:

- Sink Side Bubbler Units in Classroom 109 (01DW003), Classroom 101 (01DW007), Classroom 102 (01DW009), Classroom 202 (02DW023), Classroom 103 (01DW011), Classroom 203 (02DW025), Classroom 106 (01DW015), Classroom 107 (01DW017), and Classroom 209 (02DW037)
- Chrome Plated Brass Base Faucets in Classroom 101 (01CF008), Classroom 201 (02CF021), Classroom 103 (01CF012), Classroom 203 (02CF024), Classroom 204 (02CF026), Classroom 205 (02CF028), and Classroom 107 (01CF018)
- Delta 400 Model Faucet in Out Building Unit 2 (04KC044)

Replacement of these fixtures with lead free materials is also recommended.

The remaining eight outlets showed sample results of 15 parts per billion or less, requiring no further action or additional recommendations. These faucets/fountains include:

- Sink Faucets in Classroom 102 (01CF010) and the Clinic (01CF006)
- Kitchen Faucets in the Community Room Kitchen (01KC005), Classroom 206 (02CF030), Out Building Unit 1 (03KC040 and 03KC041)
- Water Coolers in Out Building Unit 1 (03DW038 and 03DW039)

Consecutive Sampling Results and Building Plumbing Recommendations

The consecutive samples taken on October 31, 2015, at three sites in the main school building and one site from each of the two out building units all provide additional confirmation that the highest contribution of lead appears to be from the individual faucet/fountains and not from the larger diameter supply plumbing within the main school building or the two out building units. Results of the consecutive sample monitoring are listed in the table below.

Consecutive Sample No.	1	2	3	4	5	6	7	8	9	10
LOCATION	LEA	D RES	ULT (P	ARTS	PER BI	LLION	; ND =	NOT-D	ETECT	ED)
Classroom 109 Sink Faucet (01CF004)	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Classroom 102 Sink Faucet (01CF010)	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Classroom 209 Sink Faucet (02CF036)	3	1	1	1	ND	ND	ND	ND	ND	ND
Out Building Unit 1 Kitchen Faucet (03KC040)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Out Building Unit 2 Kitchen Faucet (04KC044)	2	ND	ND	ND	ND	ND	1	1	ND	ND

Outlets With Copper Levels Greater Than 1.3 Parts per Million

The DEQ recommends school facilities take action if samples from any drinking water outlets show copper levels greater than 1.3 parts per million. Based on the sampling conducted at 43 faucets/fountains on October 31, 2015, the following two drinking water outlets both located in Outbuilding Unit 1, had copper water level results greater than 1.3 parts per million. These two outlets are listed below with their sample results. While the remaining two outlets in Outbuilding Unit 1 had satisfactory copper results, copper results from all four outlets in Outbuilding Unit 1, along with the consecutive sample results for Outbuilding Unit 1, suggests that copper leaching is occurring in the building plumbing and copper service line due to excessive stagnation and lack of use. Additional work with the school will be performed by the DEQ to address this issue.

Outlet: Kitchen Faucet, Left (03KC041)

Location: Outbuilding Unit 1, Proposed Preschool

Results: P1=0.33 parts per million, P2=1.84 parts per million

F01=1.07 parts per million, F02=1.12 parts per million



Outlet: Water Cooler, Left (03DW038)

Location: Outbuilding Unit 1, Proposed Preschool

Results: P1=2.77 parts per million, P2=1.37 parts per million

F01=1.2 parts per million, F02=1.03 parts per million



ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.036	Copper	0.15	01CF014 RM104	P1	First Primary draw of 125 milliliters
Lead	0.036	Copper	0.12	01CF014 RM104	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	01CF014 RM104	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.00	01CF014 RM 104	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.009	Copper	0.07	02CF021 RM201	P1	First Primary draw of 125 milliliters
Lead	0.009	Copper	0.07	02CF021 RM201	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.00	02CF021 RM201	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	02CF021 RM201	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.012	Copper	0.08	02DW023 RM202	P1	First Primary draw of 125 milliliters
Lead	0.009	Copper	0.09	02DW023 RM202	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.00	02DW023 RM202	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	02DW023 RM202	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.013	Copper	0.21	01CF010RM102	P1	First Primary draw of 125 milliliters
Lead	0.002	Copper	0.08	01CF010RM102	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.00	01CF010RM102	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	01CF010RM102	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.043	Copper	0.17	01DW013 RM104	P1	First Primary draw of 125 milliliters
Lead	0.106	Copper	0.24	01DW013 RM104	P2	Second Primary draw of 125 milliliters
Lead	0.003	Copper	0.00	01DW013 RM104	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Copper	0.00	01DW013 - RM104	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.037	Copper	0.09	02DW020 RM201	P1	First Primary draw of 125 milliliters
Lead	0.024	Copper	0.1	02DW020 RM201	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.05	02DW020 RM201	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	02DW020 RM201	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.012	Copper	0.1	01CF012 RM103	P1	First Primary draw of 125 milliliters
Lead	0.012	Copper	0.08	01CF012 RM103	P2	Second Primary draw of 125 milliliters
	0.003	Copper	0.06	01CF012 RM103	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Copper	0.00	01CF012 RM103	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.009	Copper	0.18	01DW009 RM102	P1	First Primary draw of 125 milliliters
Lead	0.003	Copper	0.08	01DW009 RM102	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.00	01DW009 RM102	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	01DW009 RM102	F02	Flush Sample taken 2 minutes after First Flush

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting.

Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper

ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.013	Copper	0.06	01DW011 RM103	P1	First Primary draw of 125 milliliters
Lead	0.004	Copper	0.00	01DW0I1 RM103	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	01DW011 RM103	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.00	01DW011 RM103	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.007	Copper	0.19	02CF022 RM202	P1	First Primary draw of 125 milliliters
Lead	0.024	Copper	0.19	O2CF022 - RM202	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.3	02CF022 - RM202	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.12	02CF022 - RM202	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.014	Copper	0.15	01CF008 RM101	P1	First Primary draw of 125 milliliters
Lead	0.011	Copper	0.11	01CF008 - RM101	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.00	01CF008 RM101	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.00	01CF008 - RM101	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.011	Copper	0.11	01DW007 RM101	P1	First Primary draw of 125 milliliters
Lead	0.010	Copper	0.11	01DW007 RM101	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	01DW007 RM101	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	01DW007 RM101	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.032	Copper	0.31	01DW001 GYM	P1	First Primary draw of 125 milliliters
Lead	0.006	Copper	0.13	01DW001 GYM	P2	Second Primary draw of 125 milliliters
Lead	0.005	Copper	0.1	01DW001 GYM	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Copper	0.08	01DW001 GYM	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.017	Copper	0.22	01CF004 ROIOM 109	P1	First Primary draw of 125 milliliters
Lead	0.010	Copper	0.15	01CF004 ROOM109	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.06	01CF004 ROOM109	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Copper	0.08	01CF004 ROOM109	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.013	Copper	0.15	01DW003 ROOM109	P1	First Primary draw of 125 milliliters
Lead	0.003	Copper	0.08	01DW003 ROOM109	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.06	01DW003 ROOM109	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.05	01DW003 ROOM109	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.014	Copper	0.12	01CF006 CLINIC	P1	First Primary draw of 125 milliliters
Lead	0.003	Copper	0.16	01CF006 CLINIC	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.07	01CF006 CLINIC	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.05	01CF006 CLINIC	F02	Flush Sample taken 2 minutes after First Flush

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting.

Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper

ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.017	Copper	0.48	04KC043 UNIT2	P1	First Primary draw of 125 milliliters
Lead	0.003	Copper	0.72	04KC043 UNIT2	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.65	04KC043 UNIT 2	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Copper	1.04	04KC043-UNIT 2	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.000	Copper	1.08	03DW039 - UNIT 1	P1	First Primary draw of 125 milliliters
Lead	0.000	Copper	1.03	03DW039 - UNIT 1	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	1.04	03DW039 - UNIT 1	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.65	03DW039 - UNIT 1	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.004	Copper	0.2	01KC005 -	P1	First Primary draw of 125 milliliters
Lead	0.004	Copper	0.13	01KC005	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.06	01KC005	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	01KC005	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.017	Copper	0.28	01WC002 HALL	P1	First Primary draw of 125 milliliters
Lead	0.017	Copper	0.33	01WC002 HALL	P2	Second Primary draw of 125 milliliters
Lead	0.012	Copper	0.26	01WC002 HALL	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Copper	0.12	01 WC002 HALL	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.012	Copper	0.33	03KC041- UNIT 1	P1	First Primary draw of 125 milliliters
Lead	0.004	Copper	1.84	03KC041 - UNIT1	P2	Second Primary draw of 125 milliliters
	0.000	Copper	1.07	03KC041-UNIT1	F01	Flush Sample taken 30 Seconds after Second
	0.000	Copper	1.12	03KC041 - UNIT1	F02	Flush Sample taken 2 minutes after First Flush
	0.005	Copper	2.77	03DW38 - UNIT1	P1	First Primary draw of 125 milliliters
	0.001	Copper	1.37	03DW038 - UNIT 1	P2	Second Primary draw of 125 milliliters
	0.000	Copper	1.2	03DW038 - UNIT 1	F01	Flush Sample taken 30 Seconds after Second
	0.000	Copper	1.03	03DW038 UNIT1	F02	Flush Sample taken 2 minutes after First Flush
	0.012	Copper	0.27	03KC040 UNIT 1	P1	First Primary draw of 125 milliliters
Lead	0.002	Copper	0.41	03KC040 UNIT1	P2	Second Primary draw of 125 milliliters
	0.001	Copper	0.99	03KC040 UNIT 1	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	1.13	03KC040 UNIT1	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.011	Copper	0.49	04KC044 - UNIT 2	P1	First Primary draw of 125 milliliters
Lead	0.003	Copper	0.97	04KC044-UNIT 2	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	1.22	04KC044 - UNIT 2	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.6	04KC044 UNIT2	F02	Flush Sample taken 2 minutes after First Flush

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting.

Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper

ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.007	Copper	0.13	02CF036 RM209	P7	First Primary draw of 125 milliliters
Lead	0.021	Copper	0.19	02CF036 RM209	P2	Second Primary draw of 125 milliliters
Lead	0.005	Copper	0.07	02CF036 RM209	F07	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.00	02CF036 RM209	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.012	Copper	0.11	02DW035 RM208	P1	First Primary draw of 125 milliliters
Lead	0.019	Copper	0.08	02DW035 RM208	P2	Second Primary draw of 125 milliliters
Lead	0.006	Copper	0.07	02DW035 RM208	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Copper	0.05	02DW035 RM208	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.019	Copper	0.11	02CF034 RM208	P1	First Primary draw of 125 milliliters
Lead	0.012	Copper	0.07	02CF034 RM208	P2	Second Primary draw of 125 milliliters
Lead	0.003	Copper	0.05	02CF034 RM208	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Copper	0.00	02CF034 RM 208	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.020	Copper	0.09	02DW033 RM207	P1	First Primary draw of 125 milliliters
Lead	0.004	Copper	0.06	02DW033 RM207	P2	Second Primary draw of 125 milliliters
Lead	0.003	Copper	0.06	02DW033 RM207	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Copper	0.05	02DW033 RM207	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.017	Copper	0.16	01KC019 RM108	P1	First Primary draw of 125 milliliters
Lead	0.005	Copper	0.11	01KC019 RM108	P2	Second Primary draw of 125 milliliters
Lead	0.004	Copper	0.06	01KC019 RM108	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.00	01KC019 RM108	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.021	Copper	0.07	02CF032 RM207	P1	First Primary draw of 125 milliliters
Lead	0.023	Copper	0.13	02CF032 RM207	P2	Second Primary draw of 125 milliliters
Lead	0.005	Copper	0.08	02CF032 RM207	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.06	02CF032 RM207	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.008	Copper	0.1	02DW037 RM209	P1	First Primary draw of 125 milliliters
Lead	0.002	Copper	0.06	02DW037 RM209	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	02DW037 RM209	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Copper	0.00	02DW037 RM209	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.013	Copper	0.08	02DW025 RM203	P1	First Primary draw of 125 milliliters
Lead	0.004	Copper	0.06	02DW025 RM203	P2	Second Primary draw of 125 milliliters
Lead	0.005	Copper	0.05	02DW025 RM203	F01	Flush Sample taken 30 Seconds after Second
Lead	0.004	Copper	0.06	02DW025 RM203	F02	Flush Sample taken 2 minutes after First Flush

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting.

Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper

ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.018	Copper	0.09	02DW027 RM204	P1	First Primary draw of 125 milliliters
Lead	0.008	Copper	0.08	02DW027 RM204	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	02DW027 RM204	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.00	02DW027 RM204	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.014	Copper	0.09	02CF026 - 4M 204	P1	First Primary draw of 125 milliliters
Lead	0.004	Copper	0.05	02CF026 RM204	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.00	02CF026 RM 204	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	02CF026 RM204	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.084	Copper	0.16	02DW031 RM206	P1	First Primary draw of 125 milliliters
Lead	0.007	Copper	0.05	02DW031 RM206	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.00	02DW031 RM206	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	02DW031 RM206	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.039	Copper	0.1	02DW029 RM205	P1	First Primary draw of 125 milliliters
Lead	0.014	Copper	0.11	02DW029 RM205	P2	Second Primary draw of 125 milliliters
Lead	0.011	Copper	0.13	02DW029 RM205	F01	Flush Sample taken 30 Seconds after Second
	0.001	Copper	0.05	02DW029 RM205	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.012	Copper	0.06	02CF028 RM205	P1	First Primary draw of 125 milliliters
Lead	0.005	Copper	0.05	02CF028 RM205	P2	Second Primary draw of 125 milliliters
	0.000	Copper	0.00	02CF028 RM205	F01	Flush Sample taken 30 Seconds after Second
	0.000	Copper	0.00	02CF028 RM205	F02	Flush Sample taken 2 minutes after First Flush
	0.012	Copper	0.15	07DW017 RM107	P1	First Primary draw of 125 milliliters
	0.009	Copper	0.16	01DW017 RM107	P2	Second Primary draw of 125 milliliters
	0.002	Copper	0.06	01DW017 RM107	F01	Flush Sample taken 30 Seconds after Second
	0.001	Copper	0.06	01DW017 RM107	F02	Flush Sample taken 2 minutes after First Flush
	0.010	Copper	0.06	01DW015 RM106	P1	First Primary draw of 125 milliliters
	0.002	Copper	0.06	01DW015 RM106	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.00	01DW015 RM106	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.05	01DW015 RM106	F02	Flush Sample taken 2 minutes after First Flush
	0.009	Copper	0.17	01CF018 RM107	P1	First Primary draw of 125 milliliters
	0.006	Copper	0.3	01CF018 RM107	P2	Second Primary draw of 125 milliliters
	0.001	Copper	0.21	01CF018 RM107	F07	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.12	01CF078 RM107	F02	Flush Sample taken 2 minutes after First Flush

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting.

Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper

ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.010	Copper	0.11	02CF030 RM206	P1	First Primary draw of 125 milliliters
Lead	0.008	Copper	0.14	02CF030 RM206	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.05	02CF030 RM206	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Copper	0.00	02CF030 RM206	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.402	Copper	0.16	01CF016 - RM106	P1	First Primary draw of 125 milliliters
Lead	0.061	Copper	0.08	01CF016 - RM106	P2	Second Primary draw of 125 milliliters
Lead	0.004	Copper	0.06	01CF016 - RM106	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Copper	0.05	01CF016 - RM106	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.014	Copper	0.16	02CF024 RM203	P1	First Primary draw of 125 milliliters
Lead	0.015	Copper	0.25	02CF024 RM203	P2	Second Primary draw of 125 milliliters
Lead	0.006	Copper	0.11	02CF024 RM203	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Copper	0.05	02CF024 RM203	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.001	Copper	0.55	03KC040 - UNIT 1	A1	First Sequential Sample
Lead	0.000	Copper	0.3	03KC040 - UNIT 1	A2	Second Sequential Sample
Lead	0.000	Copper	0.28	03KC040 - UNIT 1	A3	Third Sequential Sample
Lead	0.000	Copper	0.27	03KC040 - UNIT 1	A4	Forth Sequential Sample
Lead	0.000	Copper	0.26	03KC040 - UNIT 1	A5	Fifth Sequential Sample
Lead	0.000	Copper	0.25	03KC040 - UNIT 1	A6	Sixth Sequential Sample
Lead	0.000	Copper	0.25	03KC040 - UNIT 1	A7	Seventh Sequential Sample
Lead	0.000	Copper	0.25	03KC040 UNIT 1	A8	Eigth Sequential Sample
Lead	0.000	Copper	0.23	03KC040 UNIT 1	A9	Ninth Sequential Sample
Lead	0.000	Copper	0.24	03KC040 UNIT 1	A10	Tenth Sequential Sample
Lead	0.002	Copper	0.53	04KC044 UNIT 2	B1	First Sequential Sample
Lead	0.000	Copper	0.45	04KC044 UNIT 2	B2	Second Sequential Sample
Lead	0.000	Copper	0.42	04KC044 UNIT 2	B3	Third Sequential Sample
Lead	0.000	Copper	0.39	04KC044 UNIT 2	B4	Forth Sequential Sample
Lead	0.000	Copper	0.37	04KC044 UNIT 2	B5	Fifth Sequential Sample
Lead	0.000	Copper	0.36	04KC044 UNIT 2	B6	Sixth Sequential Sample
Lead	0.001	Copper	0.36	04KC044 UNIT 2	B7	Seventh Sequential Sample
Lead	0.001	Copper	0.36	04KC044 UNIT 2	B8	Eigth Sequential Sample
Lead	0.000	Copper	0.33	04KC044 UNIT 2	B9	Ninth Sequential Sample
Lead	0.000	Copper	0.31	04KC044 UNIT 2	B10	Tenth Sequential Sample

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting. Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper

ANIALVE	DECLUZ (/I)	ANALYTE	DECLUT (/I)	Carrella Bassailation	Cita Cada	Cita Cada Daggintian
ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.003	Connor	0.08	01CF004 - RM 109	C1	First Sequential Sample
	0.003	Copper	0.05	01CF004 - RM 109	C2	Second Sequential Sample
	0.000	Copper	0.00	01CF004 - RM 109	C3	Third Sequential Sample
	0.000	Copper			C4	
	0.000	Copper	0.00	01CF004 RM 109		Forth Sequential Sample
		Copper	0.00	01CF004 RM 109	C5	Fifth Sequential Sample
	0.000	Copper	0.00	01CF004 RM 109	C6	Sixth Sequential Sample
	0.000	Copper	0.00	01CF004 RM 109	C7	Seventh Sequential Sample
	0.000	Copper	0.00	01CF004 RM 109	C8	Eigth Sequential Sample
	0.000	Copper	0.00	01CF004 RM 109	C9	Ninth Sequential Sample
	0.000	Copper	0.00	01CF004 R 109	C10	Tenth Sequential Sample
	0.002	Copper	0.09	01CF010 RM 102	D1	First Sequential Sample
	0.000	Copper	0.00	01CF010 RM 102	D2	Second Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D3	Third Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D4	Forth Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D5	Fifth Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D6	Sixth Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D7	Seventh Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D8	Eigth Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D9	Ninth Sequential Sample
Lead	0.000	Copper	0.00	01CF010 RM 102	D10	Tenth Sequential Sample
Lead	0.003	Copper	0.07	02CF036 RM 209	E1	First Sequential Sample
Lead	0.001	Copper	0.00	02CF036 - RM 209	E2	Second Sequential Sample
Lead	0.001	Copper	0.00	02CF036 - RM 209	E3	Third Sequential Sample
Lead	0.001	Copper	0.00	02CF036 RM 209	E4	Forth Sequential Sample
Lead	0.000	Copper	0.00	02CF036 RM 209	E5	Fifth Sequential Sample
Lead	0.000	Copper	0.00	02CF036 RM 209	E6	Sixth Sequential Sample
	0.000	Copper	0.00	02CF036 RM 209	E7	Seventh Sequential Sample
	0.000	Copper	0.00	02CF036 RM 209	E8	Eigth Sequential Sample
	0.000	Copper	0.00	02CF036 RM 209	E9	Ninth Sequential Sample
	0.000	Copper	0.00	02CF036 RM 209	E10	Tenth Sequential Sample

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting. Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper 1 ppb = 0.001 mg/L