

April 14, 2017

Forest Hills School District  
Bob VanderWoude  
7550 Forest Road  
Cincinnati, OH 45244

## Maddux Elementary School

Dear Mr. VanderWoude:

Thank you for taking the responsibility seriously to protect the health of the children by voluntarily testing the water in your school for lead!

Attached please find the results of the lead analyses performed for Maddux Elementary School by the Greater Cincinnati Water Works (GCWW). The following comments speak to the process, samples analyzed and additional steps needed to help ensure the safety of all the students within the school.

### **School Sampling Process and Results**

GCWW and Forest Hills School District (FHSD) staff worked together to finalize a sampling plan for the school. The *USEPA 3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance Document (3Ts Guidelines)* is the process and guidelines used for assisting schools with testing for lead.

In March, eighty-two (82) samples were collected from drinking fountains, cooking outlets and sinks throughout the school. Including sinks as sampling locations speaks to your proactive approach towards understanding the water quality within the schools. The results show the following:

- 43 samples (52.44%), below the detection level (<1)
- 36 samples (43.90%), between 1ppb and 5ppb
- 3 samples (3.66%), between 5ppb and 10ppb
- 0 samples (0%), between 10ppb and 15ppb
- 0 samples (0%) greater than 15ppb.

One hundred percent (100%) of the sample results were below the detection level or below the federal action level.

Fifteen parts per billion (ppb) is the federal Lead and Copper Rule action level; desired results are below 15. The federal action level of 15ppb pertains to water utilities and GCWW's review and comments are based on this action level. However, the USEPA 3Ts Guidelines document outlines practices for schools to put in place if samples are greater than 20 ppb.

While we strive to have results less than 15, we recognize that lead is a pervasive environmental contaminant, and no safe blood lead threshold has been identified in children or adults. Therefore, we provide recommendations to further reduce any lead levels discovered in your school.

### **Next steps**

GCWW has reviewed the results from your samples and provides some next-steps comments.

1. Great news! All samples were below the federal action level of 15ppb and below the 20ppb trigger level outlined in the 3Ts Guidelines for schools to take action to reduce lead. Although below these levels, there were some lead detections. The following comments speak to how you can lower the lead levels and reduce the risk of lead in your school.



2. With the exception of sample location MAD-FL1-201-DF-MAD44, most of the drinking fountain results were below the detection level or had results between 1-3ppb. For sample # MAD44, consider letting the water run before using the fountain OR if it isn't used on a regular basis, consider taking the fountain out of service. If the fountain will continue to be used, work to understand what is causing the lead detection and put solutions in place to lower the level.
3. In addition to the drinking fountain, the sinks in rooms 115 and 201 on the first floor had higher results than the other ones (but still lower than the federal action level). Work to understand what might be causing these lead detections (fixtures, etc.) and put solutions in place to further reduce the risk of lead.
4. Most of the lead detections identified were low. If interested in further reducing the lead levels, consider completing a plumbing profile to review the fixtures in the school as some fixtures may be contributing to the lead detections in samples. If the fixtures are the source of the lead, plan to replace them. The USEPA 3Ts Guidelines outlines a great approach to creating and implementing a remediation plan. A copy of the Guidelines can be found on our website <http://www.cincinnati-oh.gov/water/assets/File/3T%20Guidance%20Manual%20for%20Schools.pdf>.

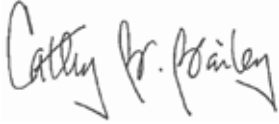
State funds are available through the new Lead Plumbing Fixture Replacement Assistance Grant Program established to provide reimbursement to eligible schools for the assessment and replacement of certain plumbing fixtures. The Program was established in House Bill 390 to provide \$12,000,000 in funding to eligible schools to reimburse for the sampling and replacement of drinking fountains, water coolers, plumbing fixtures, and limited connected piping. Schools built before 1990 can apply for reimbursement up to \$15,000 for sampling of eligible fixtures and the material costs to replace those fixtures if they are identified as being over the federal action level for lead. The program is open to traditional public schools, community schools, and chartered non-public schools. Program information can be found on the Ohio Facilities Construction Commission (OFCC) Services and Programs website <http://ofcc.ohio.gov/ServicesPrograms/LeadFixtureReplacementGrants.aspx>.

5. Since most of the lead detections were low, the following suggestion may help more than completing a plumbing profile. For the sample locations with lead detections, we have known and learned from other schools (that are participating in this program) that cleaning the faucet and aerator may reduce the lead levels. This is due to the cleaning that removes trapped particles on the aerator. Follow-up sampling at these locations can occur if you choose to clean the faucet and aerator. GCWW can assist with this.
6. If it hasn't occurred already, a robust communications plan is suggested. Communications plan steps are outlined in the 3Ts Guidelines. This plan will inform the school community of the sampling work the school has done to date and the steps the school will take to correct any issues discovered. GCWW employees can assist with this plan and are available to attend any school meetings to help explain our lead program, the sample results and our partnership with your school. Suggestions for language and a letter template can be provided if needed. Sampling results will be posted on the GCWW [lead.mycgcww.org](http://lead.mycgcww.org) website with other school sampling results.

Greater Cincinnati Water Works takes the presence of lead service lines and the removal of those service lines in our system very seriously. In addition, minimizing the exposure of lead within our preschools, schools, and daycares is one of our highest priorities under our Enhanced Lead Program. Please contact Jim Nelson at 591-6869 if you have any questions.

Thanks again for your partnership with Greater Cincinnati Water Works and your work to further understand the water quality within your building. Your extra steps and care to keep the children in our community safe are appreciated!

Sincerely,

A handwritten signature in dark ink, reading "Cathy B. Bailey". The signature is written in a cursive, flowing style.

Cathy B. Bailey  
Director/Greater Cincinnati Water Works

Cc: Dr. Marilyn Crumpton, Cincinnati Health Department  
Dr. Camille Jones, Cincinnati Health Department  
Chuck DeJonckheere, Hamilton County Public Health  
Sheila Hill-Christian, City of Cincinnati  
Verna Arnette, Greater Cincinnati Water Works  
Jeff Swertfeger, Greater Cincinnati Water Works  
Jason DeLaet, Greater Cincinnati Water Works

### Forest Hills School District - Maddux Elementary School - Lead Testing Results

SAMPLE #	SAMPLE DATE	SAMPLE TIME	SAMPLE	PARAMETER CODE	AMOUNT	GCWW COMMENTS/REVIEW/RECOMMENDATIONS REGARDING RESULTS
MAD1	3/16/2017	6:05:00	MAD-FL1-101-SINK-MAD1	Lead, ppb	<1	Less than detection level
MAD2	3/16/2017	6:05:00	MAD-FL1-101-DF-MAD2	Lead, ppb	1.24	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD3	3/16/2017	6:06:00	MAD-FL1-102-SINK-MAD3	Lead, ppb	1	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD4	3/16/2017	6:06:00	MAD-FL1-102-DF-MAD4	Lead, ppb	<1	Less than detection level
MAD5	3/16/2017	6:04:00	MAD-FL1-103-SINK-MAD5	Lead, ppb	1.32	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD6	3/16/2017	6:04:00	MAD-FL1-103-DF-MAD6	Lead, ppb	<1	Less than detection level
MAD7	3/16/2017	6:05:00	MAD-FL1-104-SINK-MAD7	Lead, ppb	2.67	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD8	3/16/2017	6:05:00	MAD-FL1-104-DF-MAD8	Lead, ppb	1.76	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD9	3/16/2017	6:06:00	MAD-FL1-105ISLAND-SINK-MAD9	Lead, ppb	2.93	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD10	3/16/2017	6:07:00	MAD-FL1-105NEARRR-SINK-MAD10	Lead, ppb	<1	Less than detection level
MAD11	3/16/2017	6:08:00	MAD-FL1-105NEARRR-DF-MAD11	Lead, ppb	1.12	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD12	3/16/2017	6:09:00	MAD-FL1-106ISLAND-SINK-MAD12	Lead, ppb	1.42	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.

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MAD13	3/16/2017	6:08:00	MAD-FL1-106NEARRR-SINK-MAD13	Lead, ppb	3.81	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD14	3/16/2017	6:08:00	MAD-FL1-106NEARRR-DF-MAD14	Lead, ppb	1.62	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD15	3/16/2017	6:09:00	MAD-FL1-107-SINK-MAD15	Lead, ppb	<1	Less than detection level
MAD16	3/16/2017	6:09:00	MAD-FL1-107-DF-MAD16	Lead, ppb	<1	Less than detection level
MAD17	3/16/2017	6:12:00	MAD-FL1-108-SINK-MAD17	Lead, ppb	<1	Less than detection level
MAD18	3/16/2017	6:12:00	MAD-FL1-108-DF-MAD18	Lead, ppb	1.37	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD19	3/16/2017	6:12:00	MAD-FL1-109-SINK-MAD19	Lead, ppb	<1	Less than detection level
MAD20	3/16/2017	6:13:00	MAD-FL1-109-DF-MAD20	Lead, ppb	<1	Less than detection level
MAD21	3/16/2017	6:14:00	MAD-FL1-110-SINK-MAD21	Lead, ppb	1.41	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD22	3/16/2017	6:14:00	MAD-FL1-110-DF-MAD22	Lead, ppb	1.39	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD23	3/16/2017	6:12:00	MAD-FL1-111-SINK-MAD23	Lead, ppb	2.29	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD24	3/16/2017	6:12:00	MAD-FL1-111-DF-MAD24	Lead, ppb	2.43	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD25	3/16/2017	6:14:00	MAD-FL1-112-SINK-MAD25	Lead, ppb	2.93	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.

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MAD26	3/16/2017	6:14:00	MAD-FL1-112-DF-MAD26	Lead, ppb	<1	Less than detection level
MAD27	3/16/2017	6:18:00	MAD-FL1-HALLWAYNEAR101-DF-MAD27	Lead, ppb	<1	Less than detection level
MAD28	3/16/2017	6:20:00	MAD-FL1-GIRLSRRNEAR115-SINK-MAD28	Lead, ppb	<1	Less than detection level
MAD29	3/16/2017	6:20:00	MAD-FL1-BOYSRRNEAR115-SINK-MAD29	Lead, ppb	<1	Less than detection level
MAD30	3/16/2017	6:20:00	MAD-FL1-115-SINK-MAD30	Lead, ppb	8.19	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD31	3/16/2017	6:20:00	MAD-FL1-115-DF-MAD31	Lead, ppb	<1	Less than detection level
MAD32	3/16/2017	6:21:00	MAD-FL1-116-SINK-MAD32	Lead, ppb	<1	Less than detection level
MAD33	3/16/2017	6:21:00	MAD-FL1-116-DF-MAD33	Lead, ppb	<1	Less than detection level
MAD34	3/16/2017	6:21:00	MAD-FL1-117-SINK-MAD34	Lead, ppb	<1	Less than detection level
MAD35	3/16/2017	6:21:00	MAD-FL1-117-DF-MAD35	Lead, ppb	<1	Less than detection level
MAD36	3/16/2017	6:21:00	MAD-FL1-118-SINK-MAD36	Lead, ppb	2.59	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD37	3/16/2017	6:21:00	MAD-FL1-118-DF-MAD37	Lead, ppb	<1	Less than detection level
MAD38	3/16/2017	6:26:00	MAD-FL1-HEALTHSTAFFRR-SINK-MAD38	Lead, ppb	1.35	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD39	3/16/2017	6:26:00	MAD-FL1-HEALTHSTUDENTRR-SINK-MAD39	Lead, ppb	<1	Less than detection level
MAD40	3/16/2017	6:26:00	MAD-FL1-STAFFLOUNGE-SINK-MAD40	Lead, ppb	<1	Less than detection level
MAD41	3/16/2017	6:25:00	MAD-FL1-STAFFLOUNGE-DF-MAD41	Lead, ppb	1.01	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD42	3/16/2017	6:25:00	MAD-FL1-STAFFLOUNGERR-SINK-MAD42	Lead, ppb	<1	Less than detection level
MAD43	3/16/2017	6:30:00	MAD-FL1-201-SINK-MAD43	Lead, ppb	7.88	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.

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MAD44	3/16/2017	6:30:00	MAD-FL1-201-DF-MAD44	Lead, ppb	6.68	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD45	3/16/2017	6:32:00	MAD-FL1-206-SINK-MAD45	Lead, ppb	3.22	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD46	3/16/2017	6:32:00	MAD-FL1-206-DF-MAD46	Lead, ppb	2.2	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD47	3/16/2017	6:27:00	MAD-FL1-GIRLSRRNEARCAFE-FLSINK-MAD47	Lead, ppb	1	Less than detection level
MAD48	3/16/2017	6:27:00	MAD-FL1-GIRLSRRNEARCAFE-LSINK-MAD48	Lead, ppb	1.41	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD49	3/16/2017	6:28:00	MAD-FL1-GIRLSRRNEARCAFE-MSINK-MAD49	Lead, ppb	<1	Less than detection level
MAD50	3/16/2017	6:28:00	MAD-FL1-GIRLSRRNEARCAFE-RSINK-MAD50	Lead, ppb	1.96	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD51	3/16/2017	6:25:00	MAD-FL1-GIRLSRRNEARCAFE-FRSINK-MAD51	Lead, ppb	<1	Less than detection level
MAD52	3/16/2017	6:06:00	MAD-FL1-BOYSRRNEARCAFE-FLSINK-MAD52	Lead, ppb	<1	Less than detection level
MAD53	3/16/2017	6:06:00	MAD-FL1-BOYSRRNEARCAFE-LSINK-MAD53	Lead, ppb	<1	Less than detection level
MAD54	3/16/2017	6:06:00	MAD-FL1-BOYSRRNEARCAFE-MSINK-MAD54	Lead, ppb	<1	Less than detection level
MAD55	3/16/2017	6:06:00	MAD-FL1-BOYSRRNEARCAFE-RSINK-MAD55	Lead, ppb	<1	Less than detection level
MAD56	3/16/2017	6:06:00	MAD-FL1-BOYSRRNEARCAFE-FRSINK-MAD56	Lead, ppb	<1	Less than detection level
MAD57	3/16/2017	6:08:00	MAD-FL1-HALLWAYNEARCAFE-DF-MAD57	Lead, ppb	<1	Less than detection level
MAD58	3/16/2017	6:37:00	MAD-FL1-LIBRARY-SINK-MAD58	Lead, ppb	2.78	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD59	3/16/2017	6:08:00	MAD-FL1-LIBRARY-DF-MAD59	Lead, ppb	<1	Less than detection level
MAD60	3/16/2017	6:13:00	MAD-FL1-208-SINK-MAD60	Lead, ppb	<1	Less than detection level



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MAD61	3/16/2017	6:13:00	MAD-FL1-208-DF-MAD61	Lead, ppb	1.78	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD62	3/16/2017	6:14:00	MAD-FL1-209-SINK-MAD62	Lead, ppb	<1	Less than detection level
MAD63	3/16/2017	6:14:00	MAD-FL1-209-DF-MAD63	Lead, ppb	<1	Less than detection level
MAD64	3/16/2017	6:22:00	MAD-FL1-210-SINK-MAD64	Lead, ppb	1.58	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD65	3/16/2017	6:20:00	MAD-FL1-210-DF-MAD65	Lead, ppb	<1	Less than detection level
MAD66	3/16/2017	6:20:00	MAD-FL1-211-SINK-MAD66	Lead, ppb	<1	Less than detection level
MAD67	3/16/2017	6:22:00	MAD-FL1-211-DF-MAD67	Lead, ppb	1.75	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD68	3/16/2017	6:30:00	MAD-FL1-212-SINK-MAD68	Lead, ppb	1.62	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD69	3/16/2017	6:30:00	MAD-FL1-212-DF-MAD69	Lead, ppb	<1	Less than detection level
MAD70	3/16/2017	6:04:00	MAD-FL1-CAFE-SINK-MAD70	Lead, ppb	<1	Less than detection level
MAD71	3/16/2017	6:02:00	MAD-FL1-CAFE-DF-MAD71	Lead, ppb	<1	Less than detection level
MAD72	3/16/2017	6:00:00	MAD-KIT-1TUBNEAROFF-SINK-MAD72	Lead, ppb	1.75	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD73	3/16/2017	6:00:00	MAD-KIT-3TUBNEAROFF-LSINK-MAD73	Lead, ppb	<1	Less than detection level
MAD74	3/16/2017	6:00:00	MAD-KIT-3TUBNEAROFF-RSPRAYER-MAD74	Lead, ppb	<1	Less than detection level
MAD75	3/16/2017	6:00:00	MAD-KIT-NEAR3TUB-HANDSINK-MAD75	Lead, ppb	2.77	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.



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SAMPLE #	SAMPLE DATE	SAMPLE TIME	SAMPLE	PARAMETER CODE	AMOUNT	GCWW COMMENTS/REVIEW/RECOMMENDATIONS REGARDING RESULTS
MAD76	3/16/2017	6:00:00	MAD-KIT-STOCKPOT-FILLER-MAD76	Lead, ppb	1.75	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD77	3/16/2017	6:01:00	MAD-KIT-1TUBNEARSTOCKPOT-SINK-MAD77	Lead, ppb	1.03	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD78	3/16/2017	6:32:00	MAD-BASE-302ART-LSINK-MAD78	Lead, ppb	1.26	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD79	3/16/2017	6:32:00	MAD-BASE-302ART-RSINK-MAD79	Lead, ppb	1.15	Lead detected; less than 15ppb action level. Review 3Ts Guidelines to understand options to further reduce the risk of lead.
MAD80	3/16/2017	6:34:00	MAD-BASE-HALLWAY-DF-MAD80	Lead, ppb	<1	Less than detection level
MAD81	3/16/2017	6:37:00	MAD-BASE-BOYSRR-SINK-MAD81	Lead, ppb	<1	Less than detection level
MAD82	3/16/2017	6:35:00	MAD-BASE-GIRLSRR-SINK-MAD82	Lead, ppb	<1	Less than detection level