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August 24, 2016

Mr. Roger L. CayCe, Deputy Superintendent of Operations
St. Louis Public Schools – Operations Department
801 North 11th Street
St. Louis, Missouri 63101

Subject: Results of Water Testing for Lead Content

**Site(s): Active School Buildings – District Wide
St. Louis, Missouri**

Dear Mr. CayCe:

In response to national events and increased awareness, St. Louis Public Schools (SLPS) authorized Environmental Consultants, LLC (EC) to perform lead testing of water sources throughout active school buildings within the district. Initial sampling began on March 2, 2016 and all active school buildings were screened prior to the start of the 2016-2017 school year. Follow up testing remains ongoing as part of the district's Lead Program and response action protocols.

Sampling was performed by trained and licensed personnel in accordance with Federal, State and local regulations. EC is licensed by the Missouri Department of Health and Senior Services (MDHSS) as a Lead Abatement Contractor authorized to perform water testing services. Certifications for EC are attached as Appendix C to this document.

Introduction

Federal guidance suggests that children age six (6) and under, as well as expectant mothers, are at the highest risk from harmful lead exposure. The growing bodies of children and infants absorb more lead than the average adult. Exposure to lead can be attributed to numerous sources to include paint, soil (exhaust from leaded gasoline), consumer products, and water. SLPS began remediation of lead-based paint within its schools in 2001 and has continued to address lead hazards throughout recent bond issues. "Child Occupied Areas" – defined as classrooms and common spaces associated with students under the age of seven (7) are part of the district's Lead Abatement Program and are subject to routine inspections and interim controls in accordance with Federal regulations. These documents are available for public review.

In light of national events, the issue of water quality has become an increasing concern. The United States Environmental Protection Agency (USEPA) regulates the nation's drinking water in public water supplies (PWS) under the Safe Drinking Water Act (SDWA). The USEPA estimates that approximately 10,000 schools and childcare facilities maintain their own water supply. USEPA further estimates approximately 90,000 public schools are not regulated under the SDWA – this includes SLPS. As a proactive approach to protecting students and staff, SLPS voluntarily agreed to test drinking water sources at all active schools for lead content.

SLPS receives their drinking water from the City of St. Louis. As a PWS, the City of St. Louis is regulated under the SDWA by the USEPA. As such, the City of St. Louis is required to issue a "Consumer Confidence Report" (CCR) which includes testing for lead in drinking water. The 2015 CCR indicates that all samples collected from the City of St. Louis PWS were below the USEPA Action Level of 15.0 parts per billion (ppb). A copy of the 2015 City of St. Louis CCR is included as Attachment A to this document.

Lead enters drinking water when service pipes containing lead corrode. The amount of lead in water varies depending on factors such as the condition of pipes, water temperature, settling period, acidity, and types of minerals present within the water system. As such, controlling the lead content in drinking water is a facility management challenge. Although lead containing plumbing products are prohibited today, buildings constructed prior to 1986 are at greater risk of lead exposure due to the presence of lead in building construction materials.

Methodology, Reporting and Allowable Standards

Sources of potable water that may be used as drinking water by students and staff within all active school buildings were sampled for lead content. Potential sources include drinking fountains and sinks. Sinks associated with kitchens and teacher lounges were included during sampling.

Due to budget and time constraints, the sampling timeline was prioritized to address children under the age of seven (7). The first areas to be tested were the Parent Infant Interactive Programs (PIIP) at Roosevelt, Sumner, and Vashon. The Early Childhood Centers at Stix and Wilkinson followed the PIIP facilities. Upon completion, the elementary schools, middle schools and high schools were then tested.

All samples were collected on a "first draw" basis. "First draw" is achieved by allowing the water system to rest for at least six hours prior to sampling in order to collect any existing debris or settlement within the sample. The intent of this sampling is to replicate "worst case scenario" conditions.

After sample collection, samples were immediately delivered to Teklab, Inc. located in Collinsville Illinois following strict chain of custody procedures. Teklab is a NELAP and State of Missouri accredited laboratory specializing in drinking water analysis. Certifications for Teklab are attached as Appendix D to this report.

The analytical sensitivity utilized for the analysis of the water samples submitted identified a reporting limit (RL) of 1.0 microgram of lead per liter ($\mu\text{g/L}$). This reporting value equates to 1.0 parts per billion (ppb) of lead.

The USEPA action level for lead in drinking water is 15.0 ppb for PSW. The USEPA document titled "Lead in Drinking Water at Schools and Child Care Facilities" last updated November 9, 2015 identifies an action level for drinking water collected from a plumbing fixture as 20.0 ppb. **As a precautionary measure to ensure public safety, SLPS has set an internal action level of 10.0 ppb.**

The stricter action level set forth by SLPS is intended as a screening tool to allow the facilities team to better proactively manage water sources within their buildings. As corrosion of plumbing lines is an ongoing concern, utilizing a stricter internal action level allows the facilities team to focus on faulty systems before they deteriorate into major problems.

Summary of Results

Water sources at all active school buildings have been initially screened for lead content. Follow up sampling of select water sources remains ongoing in response to the implementation of response actions.

Initial test results indicate:

| | |
|-----------------------------------------|-----|
| Number of active school buildings: | 72 |
| Total number of water sources sampled: | 797 |
| Sources reported at 20 ppb or greater: | 45 |
| Sources reported at 10 ppb to 19.9 ppb: | 43 |

Please note that a summary of follow up sampling sites and locations will be provided under separate report following the implementation of response actions.

SLPS has classified all water sources in to three priorities. Following are the priority classifications set forth by SLPS:

| <u>Classification</u> | <u>Response Action</u> |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Priority 1 - sources over 20 ppb | Remove from service. Identify source of lead content. Replace fixture. Re-test source prior to use. Re-test annually. |
| Priority 2 – sources over 10 ppb | Remove from service. Re-test source. If re-test remains over 10 ppb, follow priority 1 protocols. |
| Priority 3 – sources under 10 ppb | Inspect and place on routine preventative maintenance program. Re-test in three (3) years or when conditions change. |

Priority 1 and 2 Schools – Water sources above 10 ppb

Of the seventy-two (72) active schools within SLPS, thirty-two (32) of these facilities reported a water source in excess of the internal action level of 10 ppb. As such, response actions are in the process of implementation. Follow-up testing will take place after the implementation of response actions prior to occupant use.

Following is a list of schools and the specific water source in excess of 10 ppb:

| School | Water Source | Result (ppb) |
|--------------------------|------------------------------------------------------|---------------------|
| AESM Middle School | Fountain near Room 104 | 14.7 |
| | Fountain near Nurse's Office | 24.9 |
| Beaumont High School | Fountain near Room 213 | 19.4 |
| | Fountain near Room 215 | 40.7 |
| | Fountain near Room 324 | 54.7 |
| | Fountain near Room 325 | 154.0 |
| | Fountain near Room 311 | 35.1 |
| Busch Middle School | Fountain near Room 127 | 43.5 |
| Carr Lane Middle School | Fountain near Room 123 | 13.8 |
| Carver Elementary School | Fountain near Room 101 | 12.3 |
| | Fountain 2 nd Floor Across Utility Closet | 12.6 |
| | Sink Room 101 | 22.9 ^a |

| | | |
|-----------------------------------|------------------------------------------|-------------------|
| Clay Elementary School | Fountain near Room 206 | 16.0 |
| | Fountain near Room 208 | 17.1 ^b |
| | Fountain near Room 102- South | 43.9 ^b |
| | Fountain near Room 104- North | 26.8 ^b |
| Clyde C Miller Career Academy | Kitchen Sink – North | 12.5 |
| | Kitchen Sink – South | 14.1 |
| | Serving Sink – South | 11.8 |
| | Kitchen Sink – Center | 45.9 |
| | Room 127 Sink – Center Aisle South | 55.1 |
| | Room 127 – Sink | 22.6 |
| Compton Drew Elementary School | Kitchen Sink- Large | 24.6 |
| | Kitchen Sink- Small | 10.1 ^a |
| Cote Brilliante Elementary School | Fountain near Room 205 | 10.4 |
| Fanning Middle School | Fountain 2 nd Floor South | 16.4 |
| | Fountain 2 nd Floor North | 280.0 |
| | Fountain 1 st Floor North | 148.0 |
| Gallaudet Elementary School | Music Room Sink | 45.4 |
| | Fountain near Room 106 | 115.0 |
| | Fountain near Room 103 | 107.0 |
| Gateway Middle School | Fountain near Library – Low | 13.0 |
| Gateway STEM High School | Kitchen Sink – Center | 12.6 |
| | Kitchen Sink – North by Restroom | 243.0 |
| | Fountain near Room 223 | 20.1 |
| Henry Elementary School | Fountain 1 st Floor North | 13.2 |
| | Fountain South by Cafeteria | 29.0 ^a |
| Herzog Elementary School | Kitchen Sink | 11.3 |
| Hickey Elementary School | Kitchen Sink | 31.8 ^b |
| Laclede Elementary School | Fountain Basement – East, Low | 12.6 |
| | Fountain Basement – Southwest Wall | 67.8 |
| | Kitchen Sink | 10.8 ^b |
| Langston Elementary School | Fountain near Room 309 | 11.0 |
| | Kitchen Sink – Main | 168.0 |
| | Kitchen Sink – South | 228.0 |
| | Room 318 Sink | 63.0 |
| Long Middle School | Fountain near Room 208 | 13.6 |
| Mann Elementary School | Fountain 1 st Floor East High | 13.4 |
| Meramec Elementary School | Kitchen Sink | 14.5 |
| | Fountain 1 st Floor East | 12.0 |
| | Fountain Gym East, High | 14.7 ^b |
| Nahad Chapman Elementary School | Building 3, Room 304 Sink | 12.4 |
| | Building 3, Room 303 Sink | 11.0 |
| | Fountain Multi-Purpose Room | 22.9 |

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|------------------------------|--------------------------------------------|-------------------|
| Northwest High School | Fountain Girls Gym | 15.5 |
| | Kitchen Sink – Northeast | 21.3 |
| | Kitchen Sink – Southeast | 97.1 |
| | Kitchen Sink – Southern Back | 202.0 |
| | Fountain PE Storage Room | 109.0 |
| Peabody Elementary School | Kitchen Sink | 31.8 |
| | Fountain 1 st Floor South | 12.8 |
| | Fountain 2 nd Floor North | 11.6 ^b |
| Roosevelt High School | Kitchen Sink | 10.3 |
| | Fountain 1 st Floor South, East | 72.3 |
| | Kitchen Sink – Central East | 94.2 ^a |
| | Kitchen Sink - West | 20.2 ^a |
| Shenandoah Elementary School | Fountain 2 nd Floor West | 61.3 |
| | Fountain Library High | 30.5 |
| | Fountain Basement East, Low | 10.3 ^b |
| | Kitchen Sink | 19.9 ^b |
| | Fountain- 1 st Floor West | 64.3 ^b |
| Sigel Elementary School | Fountain 2 nd Floor West | 33.5 |
| | Fountain 2 nd Floor East | 34.5 |
| | Fountain 1 st Floor East | 62.3 |
| | Fountain 1 st Floor West | 32.4 |
| | Fountain Basement East | 16.7 |
| | Kitchen Sink | 21.6 |
| Sumner High School | Cafeteria Sink- Northeast Corner | 26.4 |
| | Sink near Room 206 | 19.4 |
| Vashon High School | Kitchen Sink – East Serving Line | 16.6 |
| | Kitchen Sink – West Serving Line | 13.9 |
| | Kitchen Sink – Southwest Serving Line | 11.3 |
| | Kitchen Sink – East Serving Line, Wall | 17.1 |
| | Kitchen Sink – Southeast Serving Line | 39.1 |
| Walbridge Elementary School | Fountain 3 rd Floor South | 15.6 |
| Woerner Elementary School | Kitchen Sink | 10.9 |
| Yeatman Middle School | Office Sink | 16.3 |

Legend

| | |
|--------------------------|-------------------------------------------------------------------------------------------------|
| Superscript ^a | An initial sample collected at a follow up visit |
| Superscript ^b | A re-sample collected from a source originally was re-sampled at the Risk Assessor's discretion |

Priority 3 Schools – No water sources above 10 ppb

Of the seventy-two (72) active schools within SLPS, forty (40) of these facilities did not report any water sources above the internal action level of 10 ppb. In addition, none of the Parent Infant Interaction Program (PIIP) sites within the district tested above 10 ppb.

Following are the forty (40) schools testing below 10 ppb:

| | |
|-----------------------------------|----------------------------------|
| Adams Elementary School | Jefferson Elementary School |
| Ames Elementary School | Kennard Elementary School |
| Ashland Elementary School | Lexington Elementary School |
| Blewett Elementary School | Lyon @ Blow Elementary School |
| Bryan Hill Elementary School | Madison Elementary School |
| Buder Elementary School | Mallinckrodt Elementary School |
| Carnahan High School | Mason Elementary School |
| Central VPA High School | McKinley High School |
| Cleveland NJROTC High School | Metro High School |
| Cole Elementary School | Monroe Elementary School |
| Columbia Elementary School | Mullanphy Elementary School |
| Dewey Elementary School | Nance Elementary School |
| Dunbar Elementary School | Nottingham High School |
| Farragut Elementary School | Oak Hill Elementary School |
| Ford Elementary School | Shaw Elementary School |
| Froebel Elementary School | Soldan High School |
| Gateway Michael Elementary School | Stix Early Childhood Center |
| Hamilton Elementary School | Washington Montessori School |
| Hodgen Elementary School | Wilkinson Early Childhood Center |
| Humboldt Elementary School | Woodward Elementary School |

In addition, the Parent Infant Interaction Programs (PIIP) at Roosevelt High School, Sumner High School and Vashon High School tested less than 10 ppb.

Specific sample results, presented on a school-by-school basis, are included as Appendix B to this report.

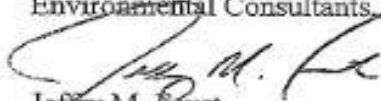
Conclusions

In light of national attention to the issue of water quality, SLPS authorized EC to conduct water sampling at all active school buildings. As a precautionary measure, SLPS selected a more stringent actionable level of 10 ppb in lieu of the USEPA action levels of 15 and 20 ppb. Based on these more stringent guidelines, lead in water concerns were identified within thirty-two (32) of the seventy-two (72) SLPS active school buildings.


At this time, all water sources testing at 10 ppb or above have been removed from service. These sources are subject to additional maintenance activities and response actions prior to use. Before being put back in to service, EC recommends these sources be re-tested to confirm compliance with acceptable levels. In addition, all sources will be subject to an ongoing maintenance program and re-testing at appropriate intervals.

EC is pleased to provide this information to SLPS and we appreciate the opportunity to provide quality environmental consulting services. Please call us at (618) 343-3590 if you have any questions or to arrange a meeting to discuss.

Sincerely,
Environmental Consultants, LLC



Jeffrey M. Faust
Principal



James P. Yasitis
Principal