June 04, 2024

North Kansas City School District
2000 Northeast 46th Street
Kansas City, Missouri 64116

**Project: Limited Lead in Drinking Water Testing**
**Address: 8100 North Troost Avenue, Kansas City, Missouri 64118**

On April 19, 2024, Becca McWhorter of Axiom Service Professionals (ASP), conducted lead in drinking water resampling at the above referenced address. The sampling location was derived from a previously elevated water source selected for retesting by the North Kansas City School District. One sample was collected from a potential drinking water outlet used for drinking, cooking, or cleaning of cooking and eating utensils in the building.

**Drinking Water Standards**

The use of lead solder and other lead-containing materials as defined in the EPA Safe Drinking Water Act in connecting household plumbing to public water supplies was prohibited as of 1986. The act established the definition of “lead free” to be less than 8% as a weighted average across wetted surfaces of a pipe, pipe fitting, plumbing fitting, and fixture and 0.2% lead for solder and flux. In 2011, the definition of “lead free” as it applied to wetted surfaces of a pipe, pipe fitting, and plumbing fitting and fixture was reduced from 8% to 0.25% as a weighted average. Many older structures still have lead pipe or lead-soldered plumbing internally, which may substantially increase the lead content of water at the tap. Nationwide regulations controlling the lead content of drinking-water coolers in schools went into effect in 1989.

In 1991, the EPA published the Lead and Copper Rule establishing limits on the amount of lead and copper in drinking water. This regulation can be found under 40 CFR Part 141, Subpart I. Reference: https://www.epa.gov/dwreginfo/lead-and-copper-rule

The EPA has set lead in drinking water standards as outlined below.

- For lead, the maximum contaminant level goal (MCLG) is zero. This is the levels determined to be safe by toxicological and biomedical considerations, independent of feasibility. EPA's National Primary Drinking Water Regulations for Lead establish a treatment level of **0.015 mg/L** or **15 ppb** (parts per billion) in municipal drinking water systems.

The Missouri Senate Bill 681 “Get the Lead Out of School Drinking Water Act”, passed in 2022, has set the standard summarized below.
Reference: https://www.senate.mo.gov/22info/BTS_Web/Bill.aspx?SessionType=R&BillID=71259862

- On or before January 1, 2024, each school shall conduct an inventory of all drinking water outlets and all outlets that are used for dispensing water for cooking or for cleaning cooking and eating utensils in each of the school’s buildings. A plan for testing should then be developed, prioritizing early childhood education programs and elementary schools, and made available to the public.
- The bill outlines that beginning in the 2023-2024 school year and for each subsequent school year, each school shall provide drinking water with a lead concentration below five parts per billion (**5 ppb**). Any school with greater than or equal to 5 ppb shall provide results and remediation plans to parents and staff within 7 business days of receiving results.

**Water Sampling Methods:**

Water samples were collected from each selected location as “first draw” and/or “flush”. First draw samples typically represent worst case sample results. A flush sample is typically collected to determine if an elevation is originating beyond the fixture in the fixture supply line or beyond. Samples were deposited into a non-preserved 250-milliliter sterile Nalgene screw top bottle. Immediately following sample collection, the samples were delivered to Keystone Laboratories located at 8857 Long Street, Lenexa, Kansas 66215. Upon arrival at the laboratory, samples were preserved through addition of nitric acid.

Keystone Laboratories is accredited through the Missouri Department of Natural Resources for analysis of lead in water.

Below is a summary of the water sampling results as reported in Appendix C by Keystone Laboratories. Results exceeding the applicable drinking water standards are shown in red text.

**April 19, 2024 Water Sampling Results:**

| Sample # | Location | Source Under Test | Test Type | Lead Result (ppb) |
|---|---|---|---|---|
| 8100-41-RDF | Clardy Elementary - Kitchen | Pot Filler | Retest - First Draw | 386 |

Photos of the sampling locations are provided in Appendix D. A diagram containing identifiers on the outlets tested is provided in Appendix E.

**Short-Term Control Measures**

- Per the State of Missouri Senate Bills Nos. 681 & 662, a remediation plan should be developed and executed.
- Take immediate steps to prevent use from the failed source(s).
- Shut-off problem outlets
- Post “Not for Drinking/Cooking” at Problem Outlets. If initial sample results from an outlet(s) exceed the remediation trigger level, but are not routinely used for human ingestion (e.g., handwashing), clear signage can be posted to notify people that the outlet is not to be used for drinking or cooking until the problem is resolved.
- Consider performing follow-up flush testing in order to attempt to identify what component within the system is the source of the elevated lead concentration. This testing will assist to pinpoint where lead is getting into drinking water (i.e., fixtures versus interior plumbing) so that appropriate corrective measures can be taken.
- Shut-off or disconnection of problem outlets can provide a permanent solution. If the outlet is frequently used, this likely is not a practical long-term solution.
- Provide point-of-use (POU) filters at problem taps. Filters need routine maintenance (e.g., cartridge filter units need to be replaced periodically) to remain effective.

**Permanent Control Measures**

- Per the State of Missouri Senate Bills Nos. 681 & 662, a remediation plan should be developed and executed.
- Replacement of Problem Outlets and any identified upstream plumbing components (e.g., valves, leaded solder) to permanently address the problem. EPA's revised March 2015 guidance, How to Identify Lead-Free Certification Marks for Drinking Water System & Plumbing Products, can be a useful resource selecting leadfree plumbing.
- Provide point-of-use filters (POU) at problem taps as a long-term or permanent control measure. When doing this, facilities should be sure to create maintenance schedules and identify a point of contact to be in charge of making sure they are properly maintained.
- Reconfigure Plumbing. Ongoing renovation of school or childcare buildings may provide an opportunity to modify the plumbing system to redirect water supplied for drinking or cooking to bypass sources of lead contamination. Before undertaking such an alternative, be certain that you have properly identified all of the sources of lead contamination in drinking water.
- Remove and replace any drinking water coolers or drinking water outlets that the United States Environmental Protection Agency has determined are not lead-free under the federal Lead Contamination Control Act of 1988, as amended; except the school shall not be required to replace those drinking water outlets or water coolers that tested in accordance with state regulations and have been determined to be dispensing drinking water with a lead concentration less than five (5) part per billion (ppb); however, such drinking water outlet or water cooler shall be subject to all testing requirements and shall not be excluded from testing under subsection 10 of the Missouri Senate Bills Nos. 681 & 662, Section 160.077.
- Consider filtration of incoming water at the point of entry (POE) to the building.

**Required Communication**

- Contact staff and parents via written notification within seven (7) business days after receiving the test result.
- The notification shall include at least:
- The test results and a summary that explains such results;
- A description of any remedial steps taken; and
- A description of general health effects of lead contamination and community specific resources; and
- Provide bottled water if there is not enough water to meet the drinking water needs of the students, teachers, and staff.
- Submit such annual testing results to the Missouri Department of Health and Senior Services (DHSS).
- Before August 1, 2024, or the first day on which students will be present in the building, whichever is later, and annually thereafter, each school shall conduct testing for lead by first-draw and follow-up flush samples of a random sampling of at least twenty-five percent (25%) of remediated drinking water outlets until all remediated sources have been tested as recommended by the 2018 version of the United States Environmental Protection Agency's "Training, Testing, and Taking Action" program. The testing shall be conducted and the results analyzed for both types of tests by an entity or entities approved by the department.
- Any measures taken to remediate any elevated lead levels identified must be recorded and documented.

**General Recommendations**

- Retesting of all potential cooking and drinking water sources is required five (5) years from previous testing completed.
- If the condition changes or significant alterations to existing plumbing is undertaken, consider performing additional lead in drinking water sampling.
- Ensure that the plumbing system is not used as an electrical ground.
- If equipment is added that could affect water pH, alkalinity, or hardness, consider performing lead in drinking water sampling.

Any work resulting from this report should be conducted in accordance with the EPA Safe Drinking Water Act, Missouri SB 681 & 662, HUD Lead Regulations 24 CFR 35, EPA Lead Regulations 40 CFR 745, and Consumer Product Safety Commission document #5056.

If you have any questions concerning this report, please contact me at 816-678-7894.

Sincerely,

Jeff Hurst
Axiom Service Professionals LLC
jeffh@axiomservicepros.com

**Limitations Drinking Water Testing**

The presence or absence of lead and copper (if collected) in drinking water applies only to the test locations on the date of the field visit and it should be understood that conditions may change due to deterioration, pH, alkalinity, hardness, use levels, or maintenance. The results noted within this report were accurate at the time of the evaluation and in no way reflect the conditions at the property before or after the date of the evaluation. No other environmental concerns or conditions were addressed during this evaluation.

# Appendix A
# Certifications

# STATE OF MISSOURI
# DEPARTMENT OF HEALTH AND SENIOR SERVICES

## LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

# Jeffrey A. Hurst

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

**Lead Risk Assessor**
Category of License

| | |
|---|---|
| Issuance Date: | **8/1/2022** |
| Expiration Date: | **8/1/2024** |
| License Number: | **000801-200166567** |

Paula F. Nickelson
Acting Director
t of Health and Senior Services

son City, MO 65102

# Appendix B
# EPA Listed Lead Containing Drinking Fountains

(Drinking Fountains were not included with this sampling.)

**Table C-1**
**Water Coolers With Other Lead Components**

**EBCO Manufacturing**

- All pressure bubbler water coolers with shipping dates from 1962 through 1977 have a bubbler valve containing lead. The units contain a single, 50-50 tin-lead solder joint on the bubbler valve. Model numbers for coolers in this category are not available.

- The following models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CP3 | DP15W | DPM8 | 7P | 13P | DPM8H | DP15M | DP3R | DP8A |
| DP16M | DP5S | C10E | PX-10 | DP7S | DP13SM | DP7M | DP7MH | DP7WD |
| WTC10 | DP13M-60 | DP14M | CP10-50 | CP5 | CP5M | DP15MW | DP3R | DP14S |
| DP20-50 | DP7SM | DP10X | DP13A | DP13A-50 | EP10F | DP5M | DP10F | CP3H |
| CP3-50 | DP13M | DP3RH | DP5F | CP3M | EP5F | 13PL | DP8AH | DP13S |
| CP10 | DP20 | DP12N | DP7WM | DP14A-50/60 | | | | |

**Halsey Taylor**

- Lead solder was used in these models of water coolers manufactured between 1978 and the last week of 1987:

| | | | |
|---|---|---|---|
| WMA-1 | SCWT/SCWT-A | SWA-1 | DC/DHC-1 |
| S3/5/10D | BFC-4F/7F/4FS/7FS | S300/500/100D | |

- The following coolers manufactured for Haws Drinking Faucet Company (Haws) by Halsey Taylor from November 1984 through December 18, 1987 are not lead-free because they contain 2 tin-lead solder joints. The model designations for these units are as follows:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| HC8WT | HC14F | HC6W | HWC7D | HC8WTH | HC14FH | HC8W | HC2F | HC14WT |
| HC14FL | HC14W | HC2FH | HC14WTH | HC8FL | HC4F | HC5F | HC14WL | HCBF7D |
| HC4FH | HC10F | HC16WT | HCBF7HO | HC8F | HC8FH | HC4W | HWC7 | |

**Table C-2**
**Halsey Taylor Water Coolers With Lead-Lined Tanks**

- The following six model numbers have one or more units in the model series with lead-lined tanks:

WM8A WT8A GC10ACR GC10A GC5A RWM13A

- The following models and serial numbers contain lead-lined tanks:

| | | |
|---|---|---|
| WM14A Serial No. 843034 | WM14A Serial No. 843006 | WT11A Serial No. 222650 |
| WT21A Serial No. 64309550 | WT21A Serial No. 64309542 | LL14A Serial No. 64346908 |



PO Box 47166 Kansas City, MO 64188 • 816-678-7894 • www.axiomservicepros.com

# Appendix C
# Laboratory Analytical Report

MICROBAC®

# Microbac Laboratories, Inc., Lenexa

## CERTIFICATE OF ANALYSIS

## 3HD0112

**AXIOM Service Professionals**

Jeff Hurst
PO Box 47166
Kansas City, MO 64188

**Project Name: 8100 North Troost Avenue**

Project / PO Number: 8100 North Troost Avenue
Received: 04/19/2024
Reported: 05/01/2024

**Work Order Special Information**

McWhorter, Becca
Lead Analysis

**Analytical Testing Parameters**

| | | | |
|---|---|---|---|
| **Client Sample ID:** | 8100-41-RDF | | |
| **Sample Matrix:** | Drinking Water | **Collected By:** | McWhorter, Becca |
| **Lab Sample ID:** | 3HD0112-01 | **Collection Date:** | 04/19/2024 6:28 |

Analyses Performed by: Microbac Laboratories, Inc., Newton

| Determination of Total Metals | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| **200.8** | | | | | | | | |
| Lead, total | **386** | 0.4 | ppb | 2 | | 04/29/24 1537 | 04/30/24 2134 | RVV |

**Definitions**

**RL:** Reporting Limit

**Report Comments**

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.* ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

**Reviewed and Approved By:**

Carolyn Jackson
Project Manager
carolyn.jackson@microbac.com
05/01/24 12:57

Keystone LABORATORIES
A Microbac Company

| | | | |
|---|---|---|---|
| ___ 600 E. 17th St. S<br>Newton, IA 50208<br>Phone: 641-792-8451 | ___ 3012 Ansborough Ave<br>Waterloo, IA 50701<br>Phone: 319-235-4440 | X 835 S St. Paul<br>Kansas City, KS 66105<br>Phone: 913-321-7856 | ___ 205 E Van Buren St<br>Centerville, IA 52544<br>Phone: 641-437-7023 |

| PRINT OR TYPE INFO BELOW: | | REPORT TO: | | BILL TO: | |
|---|---|---|---|---|---|
| SAMPLER: | Becca Mershoster | NAME: | Jeff Hurst | NAME: | Jeff Hurst |
| SITE NAME: | Clardy Elementary | CO. NAME: | | CO. NAME: | |
| ADDRESS: | 8100 North Troost Avenue | ADRESS: | PO Box 47166 | ADDRESS: | PO Box 47166 |
| CITY/ST/ZIP: | Kansas City, Missouri 64118 | CITY/ST/ZIP: | Kansas City, Missouri 64188 | CITY/ST/ZIP: | Kansas City, Missouri 64188 |
| PHONE: | 816-321-4702 | PHONE: | 816-678-7894 | PHONE: | 816-678-7894 |
| | | EMAIL: | jeffh@axiomservicepros.com | EMAIL: | jeffh@axiomservicepros.com |

| CLIENT SAMPLE # | DATE | TIME | | # OF CONTAINERS | MATRIX | GRAB/COMPOSITE | ANALYSES REQUIRED: Lead | | | | | | | Sample Condition | Sample # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8100-41-RDF | 4/19/2024 | 06:28 | Kitchen - Sink Tap - Kitchen | 1 | | Grab | X | | | | | | | | 3HD0112-01 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

LAB USE ONLY

| | |
|---|---|
| Wk Order #: | 3HD0112 |
| Short Hold: | |
| Rush: | |
| Temp: oC | 22.6 |

3 H D 0 1 1 2
AXIOM Service Professionals
PM: Carolyn Jackson

| Relinquied by: (Signature) | Date: | | Received by: (Signature) | Date: | | Remarks: |
|---|---|---|---|---|---|---|
| | | | | 04/19/24 | | |
| | Time: | | Carolyn Jackson | Time: | | |
| | | | | 12:01 | | |
| Relinquied by: (Signature) | Date: | | Received by: (Signature) | Date: | | |
| | | | | | | |
| | Time: | | | Time: | | |
| | | | | | | |

# Appendix D
# Photo Log

| | |
|---|---|
| <br>4/19/2024 - 8100-41 - Kitchen | |

# Appendix E
# Source Identification Diagram

**ASP was provided sample locations by**
**North Kansas City School District**

# SEVERE WEATHER SHELTERS

**Room -**

North

## EMERGENCY INFORMATION

**Clardy Elementary**
8100 N Troost Ave
Kansas City, MO

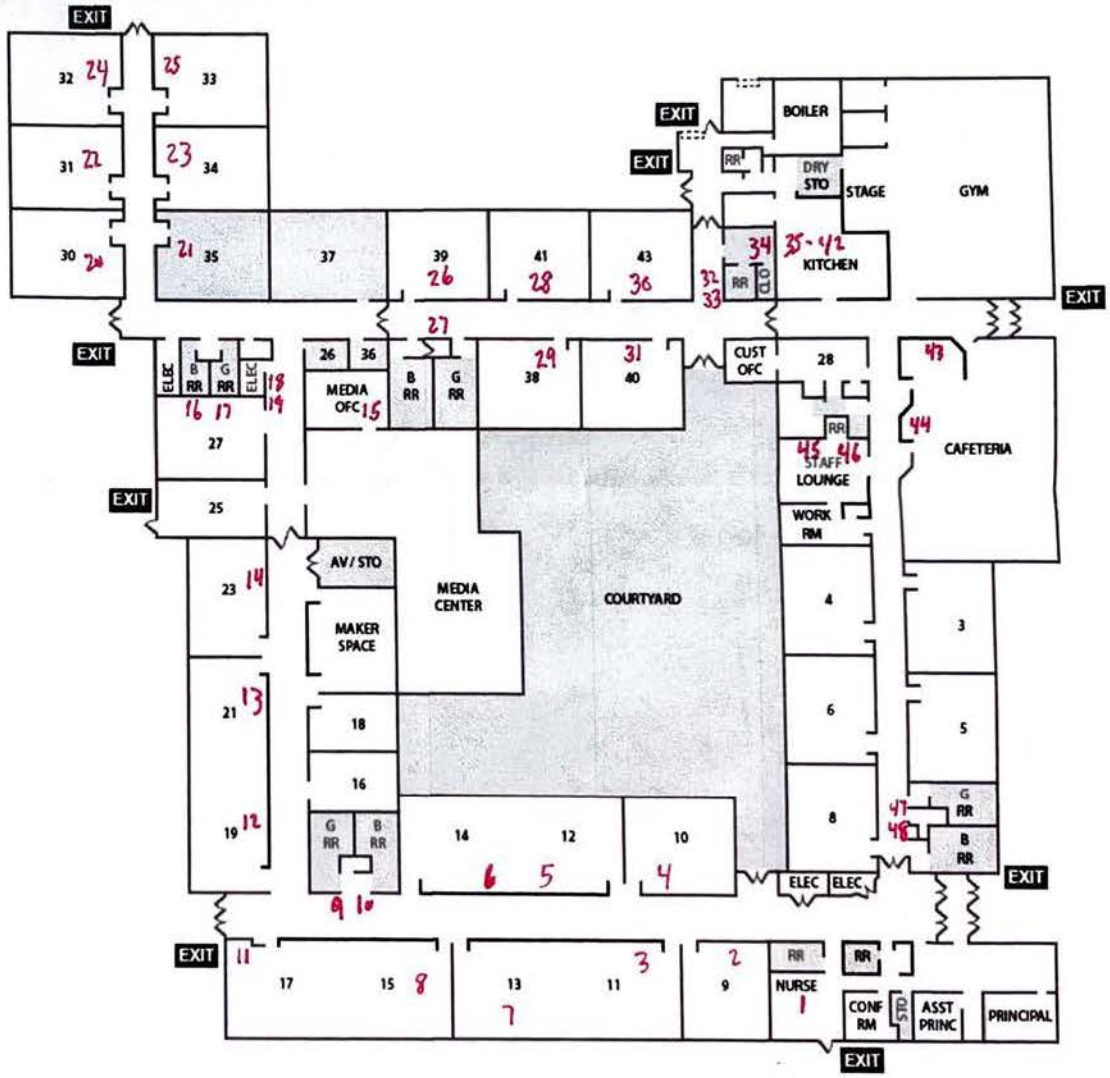
| | |
|---|---|
| EXIT | Exit Location |
| | Severe Weather Shelter |

*Illustration by: www.building-maps.com©*

## IN CASE OF SEVERE WEATHER

_____

_____




NKCSD_ClardyES_WeatherShelter_FL1_Rev1