Cole R-I School District
Developing Tomorrow's Community by Expecting Excellence Today

13600 Rt. C
Russellville, MO 65074
Phone: 573.782.3534
Fax: 573.782.3545
Dr. Jeff Jennewein, Superintendent

Cole R-1 School District
Quality Water Testing Plan

Objective: The objective of this water quality testing plan is to assess and monitor the drinking water quality within Cole County R-I School District, Missouri, to ensure the health and safety of patrons and to address Senate Bill 681 "Get the Lead Out of School Drinking Water Act". This plan is designed to proactively safeguard the health and well-being of the Cole County R-I School District community by ensuring access to safe and clean drinking water.

Timeline:

1. August 2023- September 2023
    a. Apply for Get the Lead Out Grant for up to $17,649.37 in reimbursement funds available through the Department of Health and Senior Services (DHSS) to help cover expenses incurred for sampling, remediation, filtration, and other costs associated with complying with the Act.
    b. https://health.mo.gov/living/environment/get-the-lead-out-of-school/pdf/drinking-water-reimbursement-guide.pdf
2. October 2023- January 2024
    a. Create Cole R-1 Quality Water Sampling Guide
        i. Sampling Plan p.1 (revised
        ii. Sampling Plan p.2 (Revised)
        iii. Sampling Plan p.3 (Revised)
        iv. Sampling Plan p.4 (Revised)
        v. Sampling Plan p.5 (Revised)
        vi. Sampling Plan p.6 (Revised)
    b. Create Russellville Elementary School Quality Water Sampling Map
        i. K6 Water sampling map.xlsx
    c. Create Russellville High School School Quality Water Sampling Map
        i. HS Sampling Map.xlsx
    d. Identify the Environmental Professional
        i. Keystone Laboratories
            1. 600 E. 17th St South
            2. Newton IA 50208
            3. https://keystonelabs.com/
        ii. Cost: $18.50 per sample
        iii. Reported turnaround time: between 2 and 3 weeks after receipt
    e. Collect and Have Available General Information and Resources on the Health Effects of Lead Contamination for Staff and Parents

i. Health Effects of Lead- Lead is a toxic metal that is harmful to human health. There is no safe blood lead level for children. In the human body, toxic lead can substitute for healthy calcium, which is a mineral that strengthens the bones. Lead is carried in the bloodstream and can harm the nervous system and brain. What is not excreted is absorbed into the bones, where it can collect for a lifetime. The only way to determine a child's lead level is to have the child's blood tested. Contact a health provider to learn more about blood lead testing. Young children are especially susceptible to lead exposure, because of their frequent hand-to-mouth activity, and their metabolism—their bodies absorb metals at a higher rate than the average adult does. Children's nervous systems are still undergoing development and thus are more vulnerable to the effects of toxic agents. Pregnant and nursing women should also be aware of the harmful risks of lead exposure to nursing infants and the developing fetuses of pregnant women. Mothers who have had exposure to lead in the past may store lead in their bones. Lead may be released from bones during pregnancy and lactation. Lead in drinking water can be a significant contributor to overall exposure to lead, particularly for infants whose diet consists of liquids made with water, such as baby food, juice, or formula. Lead can affect almost every organ and system in the body. The central nervous system is particularly sensitive to lead, especially in children. Lead also damages the kidneys and the reproductive system. Even low blood levels of lead (those below 5 micrograms per deciliter (µg/dL)) have been associated with reduced IQ and attention span, learning disabilities, poor classroom performance, hyperactivity, behavioral problems, impaired growth, and hearing loss. Because childhood lead exposure often occurs with no immediate symptoms, it frequently goes unrecognized. The degree of harm from lead exposure depends on a number of factors including the frequency, duration and level of the exposure(s) and individual susceptibility factors (e.g., age, previous exposure history, nutrition, and health). In addition, the degree of harm depends on one's total exposure to lead from all sources in the environment—air, soil, dust, food, paint, consumer products, and water

ii. Sources of Lead- Lead is distributed in the environment through both natural and man-made means. Sources of lead exposure include the following:

1. Lead-based paint. The most common sources of lead exposure for children are chips and particles of deteriorated lead paint. Although children may be exposed to lead from paint directly by swallowing paint chips, they are more often exposed to lead in house dust or soil contaminated by leaded paint. Lead paint chips can be ground into tiny pieces that become part of the dust and soil in and around homes. This usually occurs when leaded paint deteriorates or is subject to friction or abrasion (as on doors, windowsills, and window wells). In addition, lead can be dispersed when paint is disturbed during demolition, remodeling, paint removal or preparation of painted surfaces for repainting.
2. Lead in water. Typically, lead in water occurs through corrosion of plumbing products containing lead.

3. Lead in the air typically comes from industrial activities.
4. Lead in soil. In most cases, lead deposits in soils around roadways and streets and homes come from past emissions from automobiles using leaded gas, together with lead paint chips and dust.
5. Lead from industrial activities. Industrial workers can bring lead home on their clothes and shoes.
6. Lead in consumer products and food. Lead may be found in some imported candies, medicines, dishes, toys, jewelry, and plastics.

iii. How Lead Gets in Drinking Water

1. Source Water- Lead is rarely present in the source water for the nation's drinking water supplies (i.e., untreated water from streams, rivers, lakes, or underground aquifers that is used to supply private wells and public drinking water). While lead can enter source water from contaminated runoff or water pollution, treatment plant technologies can remove lead from these sources.
2. Through Corrosion- Corrosion can release lead from pipes, solder, fixtures, and other plumbing materials that the water comes in contact with on its way from the water treatment system to the tap. The extent to which corrosion of plumbing materials occurs can affect the amount of lead that is present in the drinking water. Most lead in school and child care facility drinking water results from corrosion of older plumbing materials containing lead. Interior lead solder (commonly used until 1988) and lead pipe and lead solder, leaded brass fittings, valves, and various drinking water outlets (e.g., water fountains and faucets) that contain lead materials are the primary contributors. It is also important to note that brass plumbing components can contain lead. The occurrence and rate of corrosion depend on the nature of the source water, the corrosion control practices at the water system, and the age of the plumbing materials in the building. For information on how chemical and physical conditions can be controlled to reduce lead in drinking water, contact the state drinking water program, which is typically housed in the state department of health or the department of environmental protection.

3. March 2024- May 2024
   a. Conduct Inventory of all drinking water outlets and outlets used for cooking/cleaning of utensils
   b. Conduct Analytical Testing and Sampling on Each Water Outlet
4. June 2024- August 2024
   a. Following Analytical Results, publish results and any remedial plans on our District website