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Bureau of Environmental Epidemiology (BEE)

Jana Elementary School
Frequently Asked Health-Related Questions

(revised September 2023)

Q1. What is the role of DHSS-BEE concerning Jana Elementary School radiation concerns?

DHSS-BEE works on contaminated sites all across the state to ensure public health protection. Specifically, we evaluate health concerns of exposure to hazardous substances in the environment, educate communities about possible adverse health effects from exposure to those substances and make recommendations regarding any needed health-protective actions.

To do this, we review test results that show what chemicals or radiological elements have been found, what parts of the environment (e.g., air, groundwater, soil) they are found in, and at what levels. We then assess the different ways people could be exposed to those contaminants, (e.g., inhalation, ingestion, skin exposure). Finally, we work to determine whether people have been or are being exposed to the contaminants and if exposures may present a public health hazard. DHSS-BEE is also a Cooperative Agreement partner with the federal Agency for Toxic Substances and Disease Registry (ATSDR) and works closely with ATSDR in evaluating health concerns of exposure.

An important part of this process is communicating with impacted communities to understand their concerns and to share important environmental public health information. DHSS has attended meetings regarding Jana Elementary School and has heard community concerns about potential contamination at the school and the conflicting reports.

Q2. There have been conflicting reports about whether there are dangerous radiological levels at Jana Elementary School. Is there a health risk from exposure to radiological levels at the school?

In 2014, DHSS-BEE worked with the Hazelwood School District to test all district schools for radon; those results were all low and below levels of public health concern. Details of that testing were provided to the district (see detail in the question below about radon). In October 2022, news media reported that sampling conducted by Boston Chemical Data Corporation at Jana Elementary School suggested the presence of lead-210, a decay product of radon, at the school.

Since then, the U.S. Army Corps of Engineers (USACE) and others (for the school district) have conducted significant additional testing in and around Jana Elementary School (JES). Based upon this data, USACE has finalized three documents; the Jana School Structures Final Report, Jana School Lead-210 Final Report, and the Jana School Soils Final Report. These USACE reports can be found at: https://www.mvs.usace.army.mil/Missions/FUSRAP/Jana-Elementary/.

After reviewing the Boston Chemical Data Corporation report, DHSS determined that it provided insufficient details, such as where and how the environmental samples were collected and how the results were analyzed. Ultimately, we were unable to draw meaningful conclusions about any

exposures or related public health risks. However, DHSS has reviewed the USACE documents and find that radiological public health threats do not exist at the school.

Q3. What health concerns should I know about from Coldwater Creek affecting Jana Elementary?

In 2019, ATSDR completed a Public Health Assessment to evaluate possible health effects for children and adults who may have been directly exposed to contaminants related to Coldwater Creek. In part, the ATSDR health assessment was completed to fulfill recommendations from an earlier DHSS assessment that found some higher cancer rates in the area. To calculate health risk, ATSDR assumed individuals were exposed daily for over 30 years to the higher levels of historical contaminants. Based on that assumption, ATSDR concluded that people who lived or regularly played in and around the creek prior to remediation may have increased risk of developing specific cancers (e.g., lung cancer, bone cancer, leukemia), but that detectable effects on overall community rates are unlikely. However, most people who live or lived around the Coldwater Creek area would not have had the frequent, decades-long direct exposures to creek sediment and floodplain soils that were the basis of the ATSDR conclusions (https://www.atsdr.cdc.gov/sites/coldwater_creek/index.html); therefore, infrequent exposures to the creek or creek sediments would be unlikely to cause increased cancer risks.

Cleanup of the historical source areas that contaminated Coldwater Creek has been completed, but USACE is still investigating, sampling, and cleaning up Coldwater Creek. Regarding Jana Elementary school, recent USACE statements indicate that there is no pathway for contaminants to migrate from the creek to the school, and numerous clean soil samples collected between the creek and the school support that conclusion. Further, USACE has finalized their investigation and the final reports of the recent sampling efforts by USACE and others provide evidence that the school is safe from radiological health concerns.

Q4. What is radon? What are the health risks from radon?

Radon (Rn) is a colorless, odorless, radioactive gas that is naturally-occurring in the environment. Radon can become a health concern indoors if it builds up to higher levels that can increase lung cancer risk. Radon is not known to cause asthma or any other type of respiratory distress. It can be found all over the United States and can get into any type of building – homes, offices, and schools. Radon levels can also vary between different parts of the state and nation.

Radon can be tested and measured in air (in picocuries per liter (pCi/L)). DHSS recommends that if the concentration of radon is 4 pCi/L or greater, remediation should be completed to lower health risks. DHSS offers free home radon test kits for Missouri residents; information can be found here: https://health.mo.gov/living/environment/radon/index.php. Testing is simple and only takes a few minutes.

DHSS also has tested for radon in most public schools in Missouri. In 2014, Jana Elementary School was included when DHSS tested all schools in the Hazelwood district for radon levels. The Jana Elementary testing found no radon in almost all samples, with an average of less than 0.3 pCi/L and a maximum of 1.5 pCi/L. These are low levels for this part of the state and nation.

Q5. What is lead-210 (Pb-210)? What are the health risks from Pb-210? Is it different from metallic lead?

Radon decays down over time, creating other naturally occurring products in the process. Pb-210 is one of these byproducts and can be found almost anywhere in small amounts. Pb-210 is a small fraction of the overall radiological contamination associated with Coldwater Creek, and is not significantly associated with this historical contamination. The most likely source of Pb-210 in the area is naturally-occurring radon.

From a chemical standpoint, Pb-210 is the same element as metallic lead (lead 206, or Pb-206) that is well known for health risks from exposure to lead-based paint, historical gasoline additives, and many other commercial and industrial products. Pb-210 is not specifically known to be a public health concern for chemical toxicity because it makes up just a fraction of the lead in the environment. Typical blood lead tests cannot distinguish Pb-210 exposures from more commonplace metallic lead (Pb-206) exposures. However, for lead exposure in general, DHSS recommends blood-lead testing for all children six to 72 months of age. If you are unsure if your child should be tested, consult your child's physician. Adults can also receive a blood-lead test to determine lead exposure levels.

Q6. Are there medical tests that I (or my child) should get because of time spent at Jana Elementary?

Additional general disease screening for past or present residents around Coldwater Creek is not recommended by the 2019 ATSDR Public Health Assessment, which evaluated community exposure to radiological contaminants while regularly playing or living near Coldwater Creek. The assessment does not recommend additional general disease screening for past or present individual residents for several reasons. First, ATSDR's calculated increases in the number of cancer cases from exposures are small, so the need for further medical testing is not indicated. Next, there is no way to link a particular cancer with exposure to contaminants in the Coldwater Creek area. Further, not all current or former residents would have experienced exposures as high as assumed in ATSDR's risk calculations. Finally, screening people who have no symptoms also presents its own risks. Therefore, individuals are encouraged to share their concerns with their physicians as part of their medical history to determine appropriate screening and diagnostic testing. Additional information can be found here: https://www.atsdr.cdc.gov/sites/coldwater_creek/docs/St_Louis_Airport_Site_Hazelwood_InterimSto_PHA-508.pdf.