



**US Army Corps  
of Engineers®**  
St. Louis District

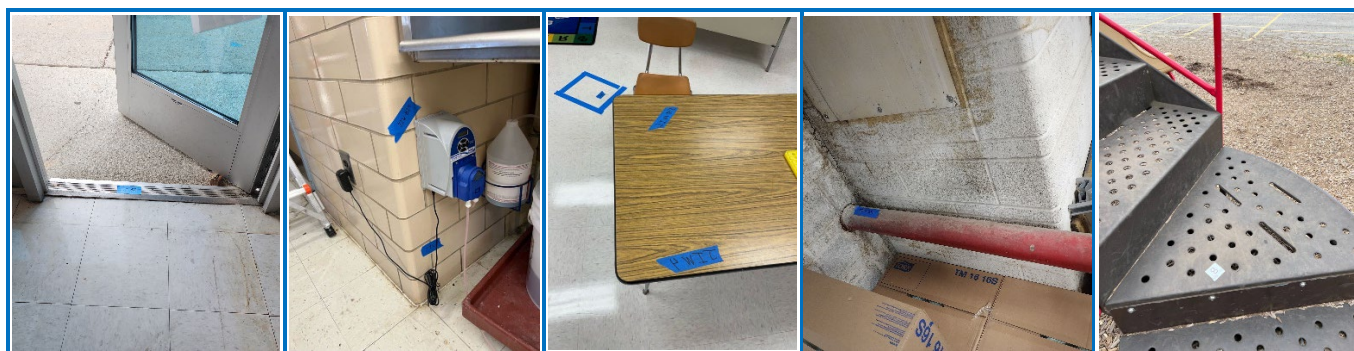
## Data Summary

# STRUCTURE SURFACES AT JANA ELEMENTARY

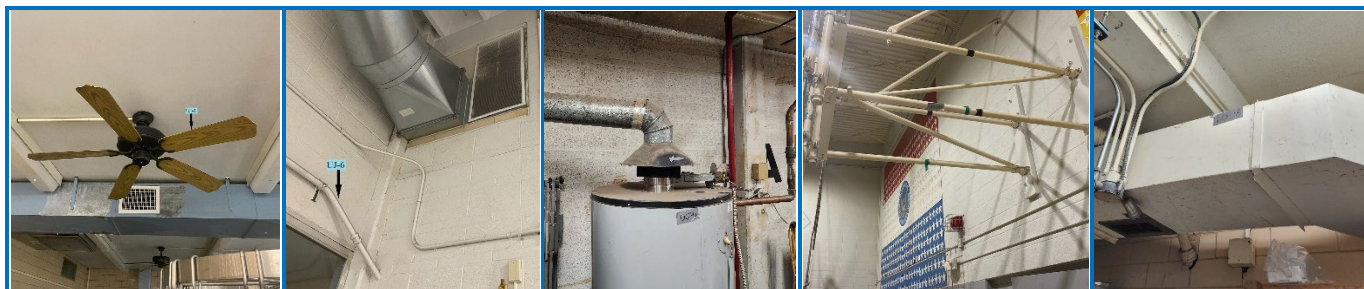


The U.S. Army Corps of Engineers (USACE) is providing the radiological survey results of structure surfaces that started on Monday, October 24, 2022, at Jana Elementary School. **The 927 results demonstrate that no radioactive material or contamination exceeded the expected range of natural background levels.**

The structure investigations included scanning accessible surfaces and fixed-point measurements with radiation detection instruments, swipes of 100 cm<sup>2</sup> areas for removable radioactivity, and dust collection from larger areas. All the accessible areas on the first floor was scanned. The surfaces include floors, walls, furniture, equipment, countertops, exterior pavement, exterior walls, a walkway, and playground equipment. The series of figures provides photographs of examples of fixed-point survey locations indicated by the blue tape.



In addition, dust was collected from 5 locations for laboratory analysis. These locations are shown in the following series of figures with black arrows or silver tape identifying the surfaces from which dust was removed.



Based on the results in the following tables, no radioactive material or contamination exceeded the expected range of natural background levels.

Dust Sample Data Summary				
	Number of Samples	Mean	Maximum	Remediation Goals
Radium-226 (pCi/g)	5	0.30	0.70	5
Thorium-230 (pCi/g)	5	0.73	1.41	14
Uranium-238 (pCi/g)	5	0.03	0.06	50
SOR <sub>N</sub>	5	0.00	0.00	1

Structure Surfaces Data Summary										
Type of Surface	Alpha Radioactivity (dpm/100 cm <sup>2</sup> )					Beta Radioactivity (dpm/100 cm <sup>2</sup> )				
	Fixed-Point Measurements				Swipes	Fixed-Point Measurements				Swipes
	Number	Mean	Max	Results <sup>a</sup>	Results <sup>b</sup>	Number	Mean	Max	Results <sup>a</sup>	Results <sup>b</sup>
Floors	124	53	262	< RG	< MDA	124	115	678	< RG	< MDA
Interior Walls Tile, Brick	29	91	295	< RG	< MDA	29	785	2,975	< RG	< MDA
Interior Walls Other	82	68	208	< RG	< MDA	82	118	830	< RG	< MDA
Exterior Walls	57	36	97	< RG	< MDA	57	1,095	2,308	< RG	< MDA
Playground Equipment	25	52	137	< RG	< MDA	25	325	1,026	< RG	< MDA
Asphalt	106	70	206	< RG	< MDA	106	454	1,029	< RG	< MDA
Concrete	38	139	280	< RG	< MDA	38	765	1,534	< RG	< MDA

<sup>a</sup> Comparison to the remediation goal (RG). Gross Alpha RG = 2800 dpm/100cm<sup>2</sup>. Gross Beta RG = 6000 dpm/100cm<sup>2</sup>.

<sup>b</sup> Minimum detectable activity (MDA): lowest value that could be detected for a sample. Highest MDAs for alpha and beta were 6.14 and 8.5 dpm/100 cm<sup>2</sup>, respectively.

Note: When performing surveys of surfaces, three types of background radioactivity can impact the results.

1. Ambient background radioactivity is the radioactivity measured when the detector is a meter away from any surface. This type of background radioactivity was measured and subtracted to obtain the reported results.
2. The material background radioactivity is the background radioactivity in the material itself. For example, a brick will have higher material background radioactivity than a piece of metal. This type of radioactivity was not measured, yielding conservatively high results.
3. Radon decay product background radioactivity settles on surfaces, and the settling process is often not even. This type of radioactivity was not measured, yielding conservatively high results. In a few cases, surfaces were covered to allow the short-lived radon decay products to decay before obtaining the reported results.