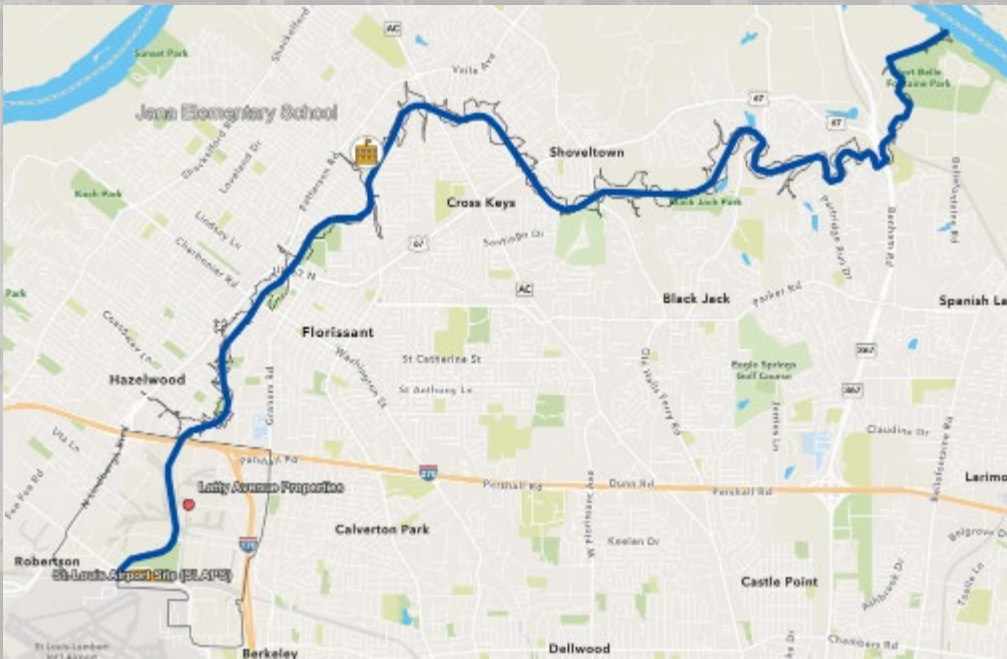




**FORMERLY UTILIZED SITES
REMEDIAL ACTION PROGRAM
ST. LOUIS SITES
JANA ELEMENTARY UPDATE**

Phil Moser, Chief of FUSRAP & Environmental
Branch
November 17, 2022



**US Army Corps
of Engineers®**

PROGRAMMATIC OVERVIEW

Mission:

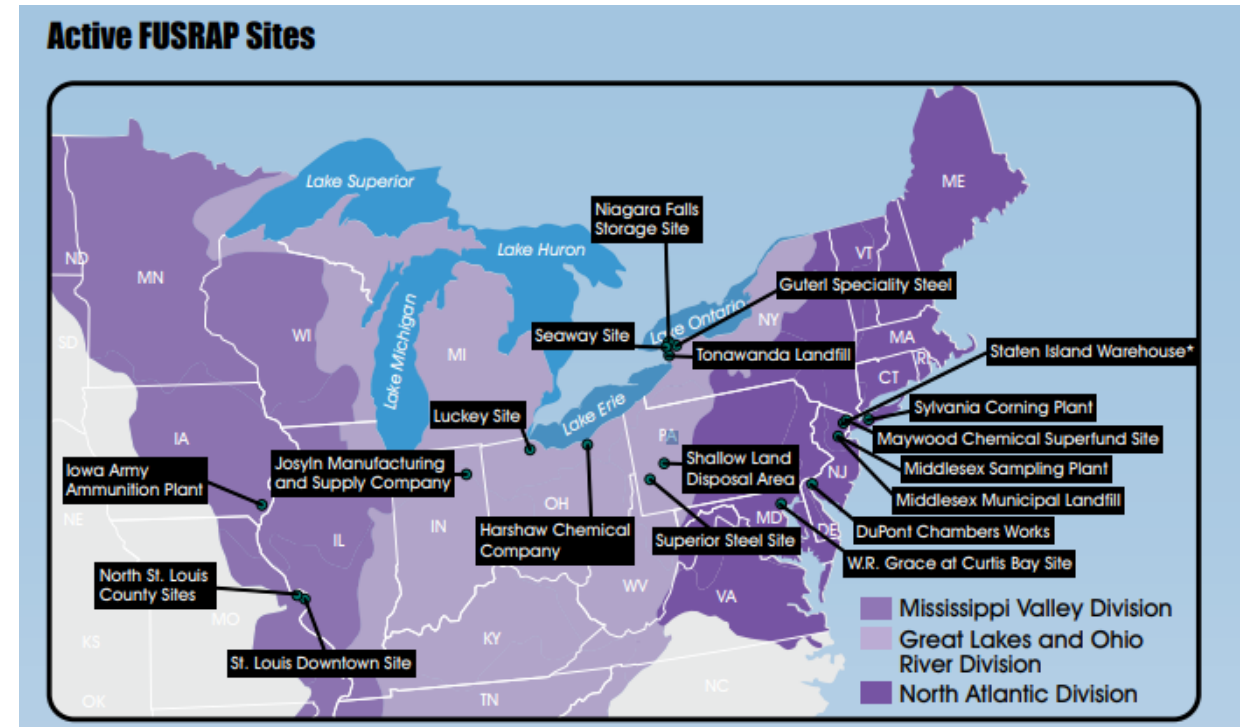
- Protect Human Health and the Environment by identifying and remediating radiological contamination generated by our nation's early atomic weapons program.

Execution:

- Transferred from Dept. of Energy to the U.S. Army Corps of Engineers in Oct 1997 for remediation. DOE has long-term stewardship.

Guidance:

- Legally required to follow the Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA**) /National Contingency Plan (NCP) Process
- Follow the **Record of Decision (ROD)** which explains the selected remedy



NORTH ST. LOUIS COUNTY SITES

- **St. Louis Airport Site (SLAPS)**
- **Latty Avenue Properties**
 - Hazelwood Interim Storage Site/Futura Coatings
 - 10 Latty Vicinity Properties
- **St. Louis Airport Site Vicinity Properties (SLAPS VPs)**
 - 756 SLAPS VPs
 - 2,200 acres
 - Industrial, commercial area, residential and recreational
 - CWC is a SLAPS VP stretching 14.2 miles from Banshee Road to the Missouri River



Jana Elementary School Preliminary Results Structure and Soil Sample Data

November 15, 2022

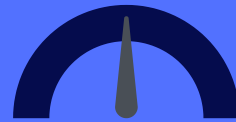
What We Found:

- **Structures:** From a radiological standpoint, the school is safe.
 - Preliminary results show no presence of radioactive material above the expected range of background levels (the level of radioactivity Mother Nature already provides).
 - Lead results are within the expected range of background levels and do not pose a health risk.
- **Soil:** Soil samples results show no new areas requiring remediation.
 - Current soil sample data indicates that surface and subsurface soil are far below — less than 10% on average — the cleanup goals stated in the Record of Decision for the North St. Louis County Formerly Utilized Sites Remedial Action Program (FUSRAP) sites.



Total Samples Taken:

- 922 structural measurements taken.
- 790 soil samples analyzed in the lab.



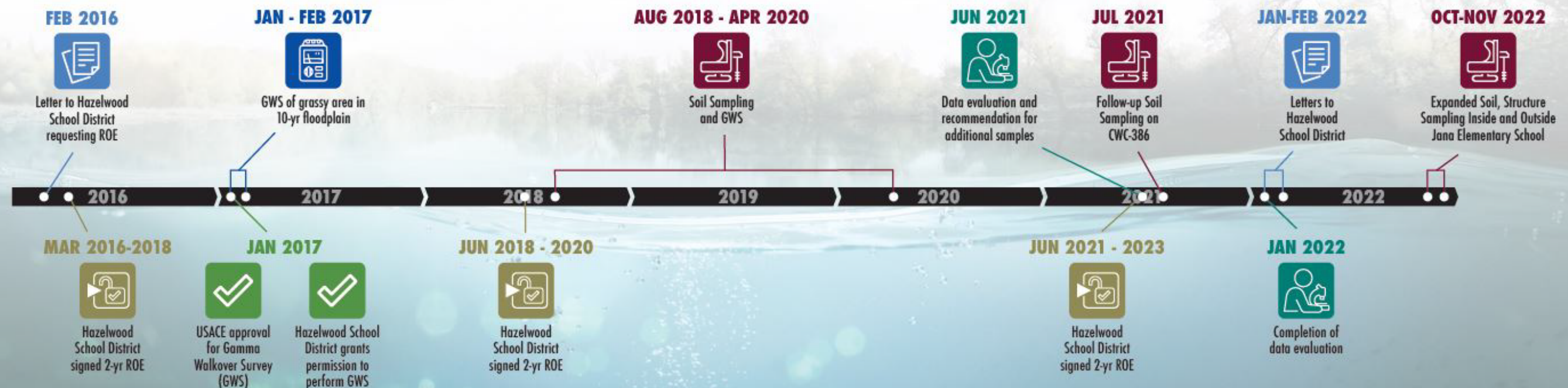
Finalization of Reports: 50%



Lab Data Analysis: 90%

Way Ahead:

- Public engagement Nov. 17.
- Final results/data available in 2-3 months.
- Department of Energy peer review of preliminary results in 2-4 weeks.
- A complete data summary report will be written and posted to the St. Louis District's FUSRAP webpage.
- Our work here is not done. Remediation is scheduled for the summer of 2023 at the sites where contamination was previously found.



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Soil Samples at Jana Elementary

What We Did:

- Soil sampling efforts were extended to soils adjacent to and surrounding Jana Elementary School October 26 - November 4, 2022.
 - **Total number of sample locations:** 126.
 - **Total number of samples sent to the lab:** 790.
 - **Gamma walkover survey of school grounds:** 305,101 data points.

What We Looked For:

- Historic fill zones.
- Sampling was conducted to look for primary contaminants the U.S. Army Corps of Engineers is responsible for cleaning up under FUSRAP.
 - Uranium-238.
 - Thorium-230.
 - Radium-226.

What We Found:

- Soil samples results show no new areas requiring remediation.
 - Current soil sample data indicates that surface and subsurface soil are far below — less than 10% on average — the cleanup goals stated in the Record of Decision for the North St. Louis County Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites.

What It Means:

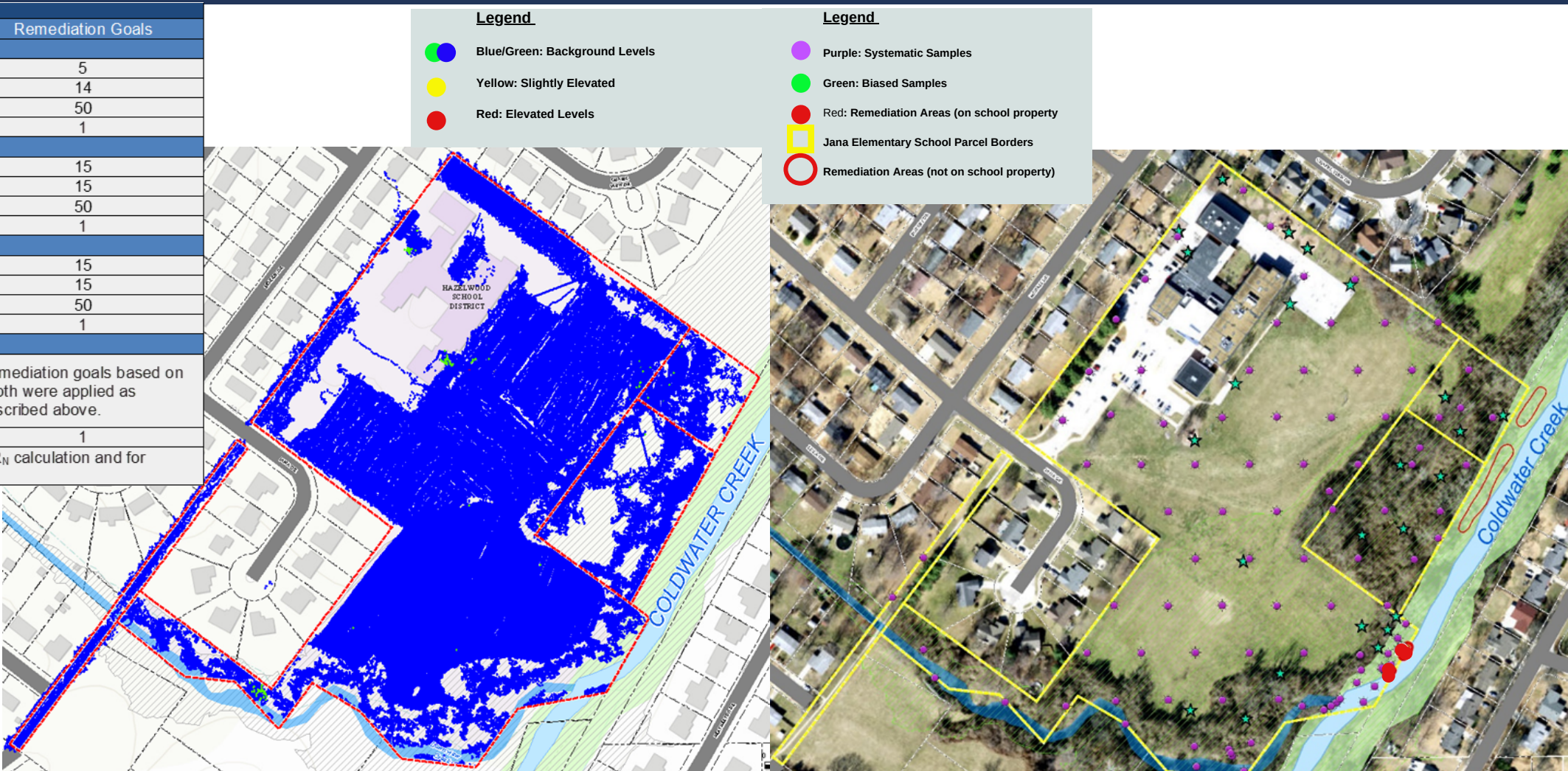
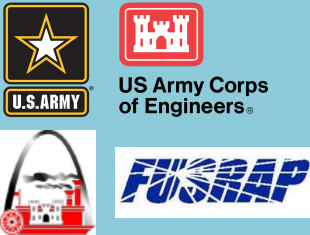
- The data confirms that contamination requiring remediation is limited to the creek bank.
- The data confirms no path of migration to the school building.

Table 1. Soil Sample Data Summary				
	Number of Samples	Mean	Maximum	Remediation Goals
Surface Soil (0-0.5 ft)				
Radium-226 (pCi/g)	111	1.18	1.67	5
Thorium-230 (pCi/g)	111	1.75	4.05	14
Uranium-238 (pCi/g)	111	1.05	3.29	50
SOR _N	111	0.08	0.29	1
Subsurface Soil (0.5 ft to 6 ft)				
Radium-226 (pCi/g)	302	1.27	2.05	15
Thorium-230 (pCi/g)	302	1.89	9.65	15
Uranium-238 (pCi/g)	302	1.11	1.70	50
SOR _N	302	0.03	0.55	1
Subsurface Soil (deeper than 6 ft)				
Radium-226 (pCi/g)	338	1.07	1.97	15
Thorium-230 (pCi/g)	338	1.61	3.12	15
Uranium-238 (pCi/g)	338	1.02	1.98	50
SOR _N	338	0.01	0.09	1
Remediation Area Soil on School Parcel (all depths)				
Radium-226 (pCi/g)	39	1.71	3.01	Remediation goals based on depth were applied as described above.
Thorium-230 (pCi/g)	39	9.13	34.3	
Uranium-238 (pCi/g)	39	1.11	1.47	
SOR _N	39	0.56	2.29	1

Notes: The reported maximum is the greatest detected result. Background concentrations are subtracted in the SOR_N calculation and for comparison to remediation goals.

Key Takeaways:

- Jana Elementary does not sit on a historic fill zone (building was built on native soil; no fill was brought in for school construction).
- No new soils contamination detected.



Structure Samples at Jana Elementary

November 15, 2022

What We Did:

- Structural surface surveys and sampling efforts were conducted at Jana Elementary School October 24 - October 28, 2022.
 - **Total number of results:** 922.

What We Looked For:

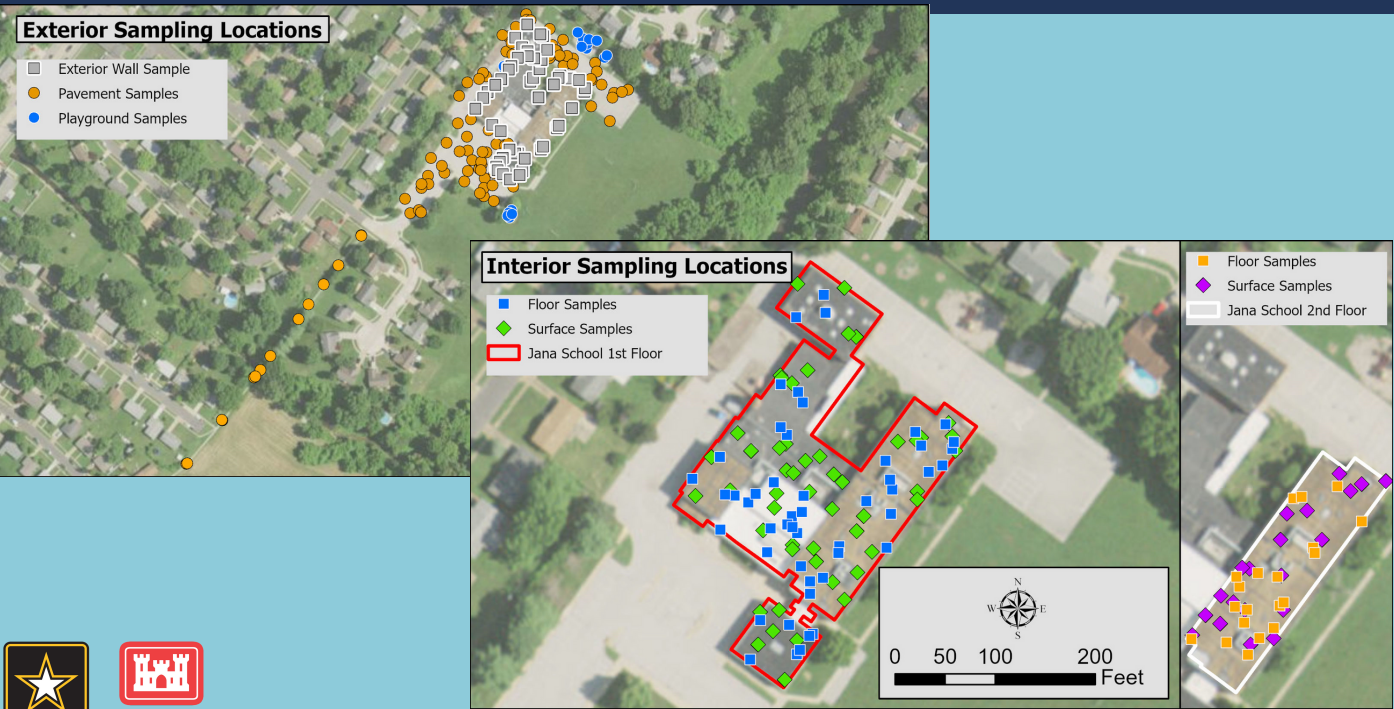
- Surveys and sampling was conducted to look for radiological contamination on accessible floor surfaces, walls, furniture, equipment, countertops, exterior pavement, exterior walls, a walkway, and playground equipment.

What We Found:

- Preliminary results show no presence of radioactive material above the expected range of background levels (the level of radioactivity Mother Nature already provides).
- Lead-210 results are within the expected range of background levels and do not pose a health risk.

What It Means:

- From a radiological standpoint, the school is safe.
- No radioactive material or contamination exceeded the expected range of natural background levels.



Key Takeaways:

- The lead-210 identified at Jana Elementary results from background levels of radon gas decaying through to lead-210.
- There are no areas of radiological concern in and around the school.

Structure Surfaces Data Summary										
Type of Surface	Alpha Radioactivity (dpm/100 cm ²)					Beta Radioactivity (dpm/100 cm ²)				
	Fixed-Point Measurements				Swipes	Fixed-Point Measurements				Swipes
	Number	Mean	Max	Results ^a	Results ^b	Number	Mean	Max	Results ^a	Results ^b
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

a Comparison to the remediation goal (RG). Gross Alpha RG = 2800 dpm/100cm². Gross Beta RG = 6000 dpm/100cm².

b 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 cm², respectively.





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What is FUSRAP?

A program that started in 1974 to clean up contamination from the nation's early atomic energy program.



Primary Coldwater Creek

Contaminants

- Uranium-238
- Thorium-230
- Radium-226



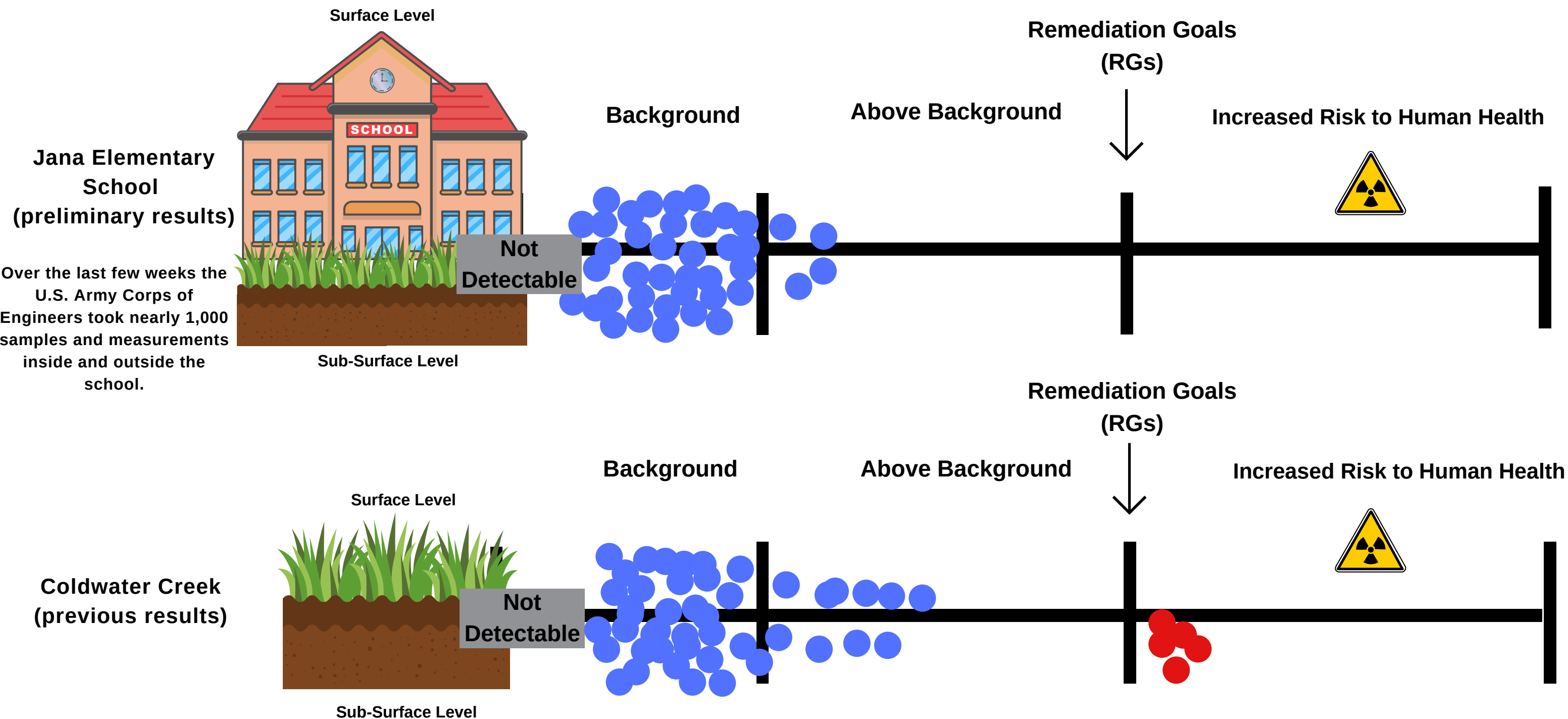
What does 'background level of

radiation" mean? Radiation that occurs naturally (what mother nature already provides).



Remediation Goals:

Established in accordance with CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act).





US Army Corps
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St. Louis District

FUSRAP – St. Louis Sites

Contact Us

- **Internet**

FUSRAP webpage <https://www.mvs.usace.army.mil/Missions/FUSRAP/>

St. Louis District website <https://www.mvs.usace.army.mil/>

- **Email** STLFUSRAP@usace.army.mil

- **General Information**

FUSRAP Area Office 314-260-3905

Public Affairs Office 314-331-8000

- **Administrative Record**

Documents are normally available for viewing at:

1. FUSRAP Office, 114 James S. McDonnell Blvd., Hazelwood, MO 63042

2. Electronic Reading Room on FUSRAP webpage

<https://www.mvs.usace.army.mil/Missions/FUSRAP/Reading-Room/>

3. St. Louis Public Library, 1301 Olive St., St. Louis, MO 63103

314-241-2288 – Ask for the History Room (by appointment only).



Coldwater Creek (Jana Elementary School Property) Topography

