

## The Dayton Sites - Dayton Unit IV Runnymede Playhouse



Dayton Unit IV, Runnymede Playhouse, was located northwest of the intersection of Runnymede Road and Dixon Avenue in Oakwood, Ohio. In 1944 the Corps of Engineers rented the Runnymede Playhouse for polonium research and development in support of the Manhattan Project. The site was used until 1949, when operations were moved to Mound Laboratory in Miamisburg, Ohio. Demolition of Unit IV was completed during 1950 and the site was returned to the Corps of Engineers for disposition.

In May, 1998, Ohio EPA in conjunction with Ohio Department of Health and U.S. DOE, took 20 soil samples from the area, 14 of which were shallow subsurface (1 - 6 feet) core samples near the original footprint of the playhouse. Seven of the shallow subsurface samples showed elevated levels of polonium-210, ranging from 5.5 to 16.0 picocuries per gram (pCi/g).

In 1999, the U.S. Department of Energy (DOE) determined the Dayton Unit IV site was eligible for inclusion into FUSRAP. A Preliminary Assessment (PA), completed by the USACE in September 2000, recommended conducting a Site Inspection (SI) to assess the type, quantity, and extent of any potential radiological contamination on site.

The SI included the following:

- A radiological scoping survey to locate potential areas of elevated gamma activity (gamma readings greater than twice background) for biased soil sampling.
- Soil borings and sampling at representative locations across the site.
- Laboratory analysis of 37 soil samples for lead, Pb-210, and Ra-226.

No areas of elevated gamma activity were identified during the radiological scoping survey (i.e., no gamma readings greater than twice the site background levels). Analytical results from the soil samples were compared to project-specific human health and/or ecological risk based soil screening levels. No parameters exceeded the

appropriate screening levels in any sample. Specifically, neither lead, Pb-210, or Ra-226 were detected in any soil sample at concentrations that exceeded their human health risk-based and/or ecological risk based screening level.

The USACE submitted the SI Report in December 2004. The Corps determined based on the findings of their investigation that no further action is required at the Dayton IV site.

Ohio EPA does not concur with the Corps conclusion. The 1998 samples collected on and around what is believed to be the location of the former Runnymede Playhouse (Main Building) exceed the clean-up criteria currently used at the former Mound Laboratories. Subsequent sampling by the USACE in the vicinity of these locations do not indicate wide spread contamination at the site, but may indicate small areas of elevated contamination. Ohio EPA has recommended to the USACE that they perform a limited, but thorough sampling campaign in areas where potentially elevated contamination may exist. However, USACE disagrees with Ohio EPA and have determined that no further action is required at Dayton Unit IV.

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Read the entire report: [Site Inspection Report, Dayton Unit IV, December 2004](#)

Related Link: [U.S. Army Corps of Engineers, Buffalo District, FUSRAP, Dayton Unit IV](#)

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