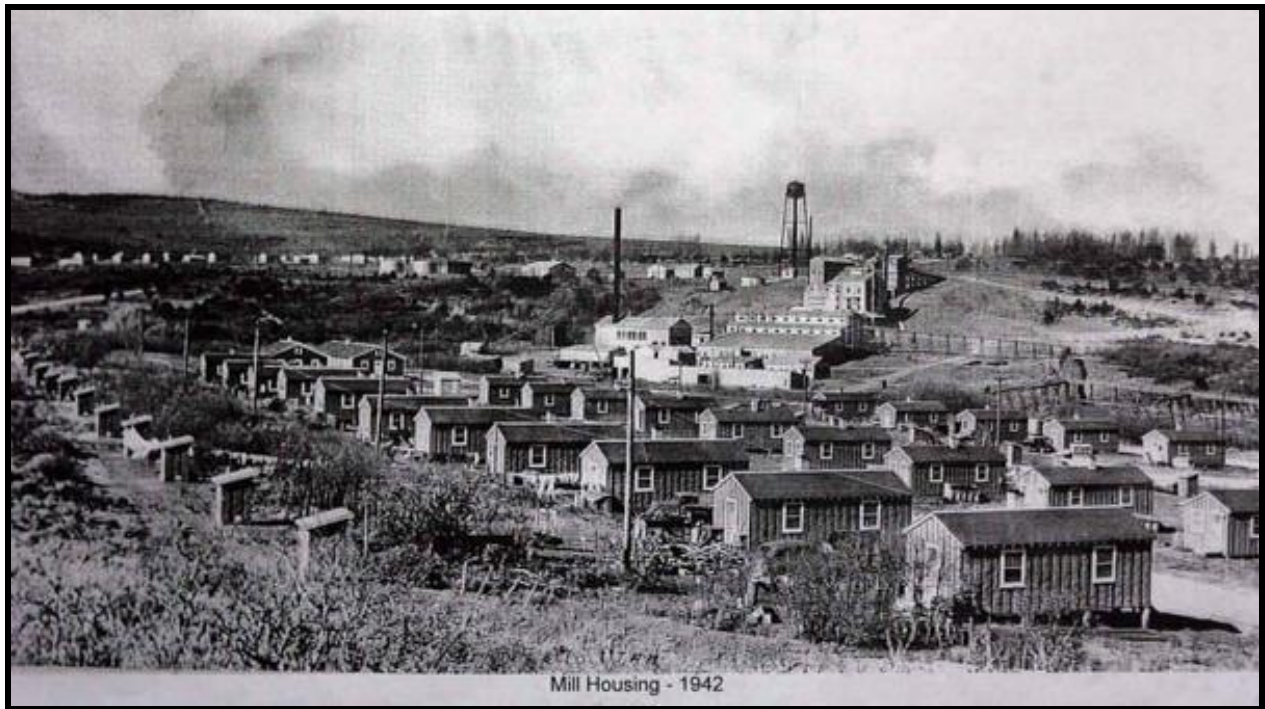


Monticello Mill Tailings Site & Monticello Mill Vicinity Properties



Background

The city of Monticello is located at the base of the Abajo mountains in the Manti-La Sal National forest. The United States government operated a uranium and vanadium processing mill, adjacently located to the town of Monticello, Utah, during World War II and the Cold War era. The mill operated from 1941-1960 and was then left abandoned. The cleanup occurred through a Federal Facilities Agreement. The Department of Energy (DOE) was the lead federal agency. The EPA placed the site on the National Priority List (NPL) in 1989. Remediation of vicinity properties was completed in June 1999.

The Monticello Mill site is a 110-acre former uranium and vanadium processing mill adjacent to the City of Monticello. During operation the mill processed 900,000 tons of ore. The mill tailings contained low levels of radionuclide along with several different metals. These materials contaminated nearby properties via wind dispersion, movement of contamination through Montezuma Creek, and using mill tailings as fill for

open lands, driveway base, sidewalks, concrete slabs, backfill around water, sewer and electrical lines, and mixed into concrete, plaster, and mortar.

| Contaminants (click on contaminant name for more information) | | | |
|---|----------------------------------|-----------------------------------|------------------------------|
| <u>Arsenic</u> | <u>Manganese</u> | <u>Molybdenum</u> | <u>Radon</u> |
| <u>Selenium</u> | <u>Uranium</u> | <u>Vanadium</u> | |

Documents:

In response to community concerns the Environmental Epidemiology Program (EEP) has conducted several health studies:



Letter Health Consultation (2016)

- This health assessment evaluated the potential for human health effects from exposure to uranium in the soil near an intermittent water seep (Seep 6).
 - Seep 6 is within the former mill site, which is now a city park.
 - Water from Seep 6 is contaminated with uranium.
- Based on recommendations in the previous Public Health Assessment, the Department of Energy (DOE) collected soil samples from the Seep 6 area.
- Recreational exposures (e.g., while playing) to uranium in Seep 6 soil are not expected to harm the health of children or adults.
- More soil sampling data over a longer time period is needed to determine if soil uranium concentrations at Seep 6 are increasing.
 - Uranium concentrations in Seep 6 soil are considerably higher than the concentrations in Seep 6 water.
 - The EEP recommends that DOE periodically sample Seep 6 soil for uranium.



Public Health Assessment (2014)

- This PHA evaluated the potential for long-term health impacts in the community from exposure to components of uranium and vanadium mining.

- The EEP found one intermittent groundwater to surface seep at one location could harm people's health through exposure to uranium. The EEP further finds that the remediation efforts and institutional controls in place at the Monticello Mill Tailings Site (MMTS) have effectively addressed all other pathways of contaminant exposure and that these pathways are not expected to harm people's health.
- Based upon UDOH's review of the updated sampling data to better assess the current exposure situation in Monticello, the following actions are recommended by the UDOH EEP:
 - Individuals with health concerns resulting from possible past exposure to the Monticello uranium mill should consult their medical provider.
 - The EEP will provide further health education to the Monticello community and consult with the UDOH Native American Liaison to determine if assistance (from the EEP) with health educational activities and information is needed.
 - The DOE, under the oversight of EPA and UDEQ, should continue to monitor potential exposure pathways (ground waters and surface waters) to ensure that they do not become a public health hazard in the future.
 - Institutional controls currently in place restricting ground and surface water use should be maintained.
 - The EEP will further investigate or monitor cancer rates in the City of Monticello when three additional years of cancer data has been collected by the Utah Cancer Registry.
 - All Utahns should test their homes for radon.

Cancer Incidence Study (2012)



- This report is a statistical review of cancer incidence among residents of Monticello from 1973 through 2009.
- This document is an extension of the PHA and addresses community concerns regarding cancer.
- Based upon EEPs review, the following actions were recommended:
 - The EEP recommends that the SEUDHD continue a program of cancer screening and health education services for the community of Monticello.
 - The EEP recommends the continued federal or state support of the cancer assistance program as it currently exists. Continued federal financial support is very important for this community because it is relatively isolated from other potential resources.
 - The EEP will continue to work with SEUDHD to identify and solicit resources for those programs.

- o The EEP recommends reassessment of the cancer incidence after the 2014 cancer data become available to the EEP.

Cancer Incidence Study (2006)



- This document is an extension of the PHA and addresses community concerns regarding cancer.
- Based upon EEPs review, the following actions were recommended:
 - o The Environmental Epidemiology Program (EEP) recommends that further analysis of cancer rates in Monticello be performed. Specifically, an attempt should be made to validate cancer cases that were identified through surveys done by the Monticello Victims of Mill Tailings Exposure committee. These surveys may have identified cancer cases that might be missing from the Utah Cancer Registry due to being diagnosed in another state.
 - o The EEP recommends that the feasibility of further epidemiological studies be explored. Such studies would need to collect information on individual behaviors such as smoking, migration and exposure to non-mill associated environmental contaminants.
 - o The EEP recommends that further education be provided to the Monticello community on causes of cancer, the exposures the community has experienced, cancer prevention and cancer screening.

Public Health Assessment (1997)



- The PHA evaluates the potential for long-term health impacts in the community from exposure to components of uranium and vanadium.
- The Monticello Mill Tailings Site (MMTS) is a public health hazard because of the radioactive tailings that are present on site.
- Based upon ATSDR's review, the following actions were recommended:
 - o Monticello city will establish local ordinances to prevent installation in the contaminated alluvial aquifer of wells that would supply potable water.
 - o The DOE will continue to remediate those properties that exceed standards and monitor all properties that have exceeded standards to ensure that remedial actions have removed the tailings.
 - o The DOE will continue to monitor the wastewater treatment plant.
 - o ATSDR will ensure that residents of Monticello schedule to have their yards remediated and do not consume edible food crops grown in their yards until remediation is completed.

- o ATSDR will evaluate the need for sampling any food crops for human consumption that are grown in the future in the Montezuma Creek floodplain.
- o The EPA and UDEQ will continue sampling deer and cattle to determine if a potential food chain pathway exists for potential human uptake.
- o The EPA and UDEQ will continue to monitor the Burro Canyon Aquifer down gradient of the mill site. If site-related contaminants increase to levels of public health concern, initiate a definitive well survey and follow-up monitoring of any private wells identified in the survey.
- o ATSDR will analyze the database containing radon measurements for the vicinity properties and determine what specific health actions are appropriate. Continue to analyze the radon concentrations that are being released from the tailings piles to determine whether off-site concentrations are at levels of public health concern.

Documents

- [Letter Health Consultation \(2016\)](#)
- [Public Health Assessment \(2014\)](#)
- [Cancer Incidence Review \(2012\)](#)
- [Cancer Incidence Review \(2007\)](#)
- [Cancer Incidence Review \(2006\)](#)
- [Public Health Assessment \(1997\)](#)

Health Education

- [Cancer and the Environment](#)
- [Radon and Cancer](#)
- [What is a Superfund site?](#)

Additional Resources

- [Department of Energy Office of Legacy Management](#)
- [Environmental Protection Agency - Monticello Tailings](#)
- [Utah Department of Environmental Quality \(UDEQ\)](#)