



Salt Lake City, Utah, Processing Site

Long-Term Surveillance and Maintenance Program



U.S. Department of Energy
Grand Junction Office

FACT SHEET

The Grand Junction Office has provided cost-effective and efficient stewardship for more than 13 years

Overview

In 1951, a former aluminum processing smelter operated by the Vitro Chemical Company, located in Salt Lake City, Utah, began processing uranium ore under contract with the U.S. Atomic Energy Commission. Uranium and vanadium ores were processed until 1968. The milling operations created process-related wastes and tailings, including a sandlike material containing radioactive materials and other contaminants. Small amounts of tailings were sold for construction purposes on approximately 100 vicinity properties; the remainder was stored on the mill property. Cleanup of the processing site, conducted by the State of Utah under the direction of the U.S. Department of Energy (DOE), was completed in 1987, and reclamation activities were completed in 1989. Tailings and radioactively contaminated soils and debris from the property were moved to the Salt Lake Disposal Site near Clive, Utah, located approximately 85 miles west of Salt Lake City.

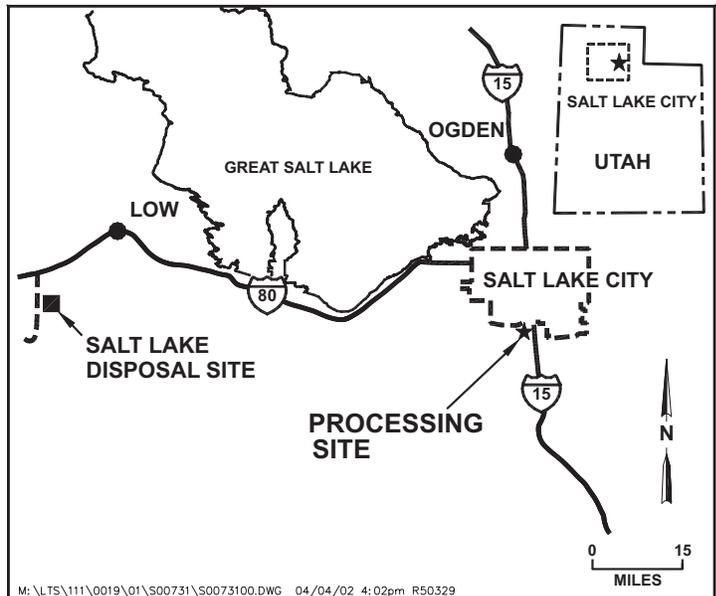
Contaminated materials were left in place at several locations on the mill property with the application of supplemental standards as approved by the U.S. Nuclear Regulatory Commission (NRC) and the Utah Department of Environmental Quality.

In 1988, DOE established the Long-Term Surveillance and Maintenance (LTSM) Program to provide long-term stewardship for sites where low levels of radioactivity remain after completion of environmental restoration. DOE conducts long-term custody and care activities to control risks from potentially hazardous materials under DOE's responsibility and to comply with applicable environmental protection regulations.

The LTSM Program is responsible for maintenance activities at the former processing site, serves as a point of contact for stakeholders, and maintains an information repository at the DOE Grand Junction Office for sites in the LTSM Program.

Regulatory Setting

Congress passed the Uranium Mill Tailings Radiation Control Act in 1978 (Public Law 95-604) that specified remedial action for 24 inactive millsites where uranium was produced for the Federal Government. DOE remediated these sites under the Uranium Mill Tailings



Remedial Action Project and encapsulated the radioactive material in NRC-approved disposal sites. Cleanup standards were promulgated by the U.S. Environmental Protection Agency in Title 40 Code of Federal Regulations Part 192 (40 CFR 192).

Processing Site

The processing site, covering an area of 128 acres, is approximately 4 miles south-southwest of downtown Salt Lake City and is located just north of 3300 South Street and east of 900 West Street. It surrounds on three sides the 40-acre Central Valley Water Reclamation Facility (CVWRF). The entire 168-acre area is owned by CVWRF and is located in a part of the city that is dominated by commercial and industrial facilities.

Uranium ore was processed at the site between 1951 and 1964, and vanadium ore was processed between 1965 and 1968. The Vitro mill was shut down in 1968, and the facilities were dismantled in 1970. Remediation of the vicinity properties commenced in 1984, and the contaminated materials were relocated to the mill property. Contaminated evaporation pond material, structural debris, and tailings at the site were remediated between 1985 and 1987. The depth of contaminated material varied from 5 to 35 feet. A total of approximately 2.8 million cubic yards of contaminated material was removed from the property and transported by railroad to the Salt Lake Disposal Site.

Final Site Conditions

During cleanup of the processing site, residual radioactive materials were not completely removed from several locations, and the underlying shallow aquifer is contaminated with radioactive constituents.

For structural and safety reasons, several small pockets of contamination exceeding the radium-226 standard were left in place under a large-diameter unreinforced concrete storm drain and along a gas line. Both utilities are located along the boundary between the property and a street right-of-way.

Excavation control for the remainder of the property was based on removing soil until radium-226 concentrations were within regulatory limits, as determined by on-site soil analyses. It was assumed that other radioactive constituents would also be successfully remediated at the same time. However, laboratory analyses of samples conducted after the excavation was backfilled indicated that thorium-230 concentrations at several locations exceeded the thorium standard. The State of Utah left the contaminated soils in place because they pose no unacceptable human health or environmental risk.

Two aquifers underlie the property. A shallow unconfined aquifer extends down to about 50 feet, and a deeper confined aquifer begins at a depth of 70 feet. Ground water in the shallow aquifer, non-potable and classified as limited use because of high ambient concentrations of arsenic, was contaminated by radioactive materials from the milling operations. The confined aquifer contains potable ground water and is free of mill-related radioactive contaminants. DOE, the State, and CVWRF agreed that no remediation was required for the shallow aquifer, and that the current and reasonably projected uses of site-affected ground water would not adversely affect human health or the environment.

The remaining contaminated soil and the contaminated ground water are being managed in accordance with the application of supplemental standards and associated institutional controls under the provision of 40 CFR 192. NRC agreed that the contaminated soils and ground water pose no risk and accepted DOE's application of supplemental standards.

LTSM Program Activities

The LTSM Program is responsible for performing all long-term stewardship activities associated with the site in accordance with a Long-Term Management Plan and a Ground Water Compliance Action Plan prepared specifically for the Salt Lake City processing site.

Annual ground water and surface water monitoring will continue through 2004, at which time DOE will evaluate the need for continued monitoring. DOE has an agreement with CVWRF for access to the monitoring locations.

Ground water and land use institutional controls, including pumping restrictions and prevention of drilling or other intrusive activities on the property, will be enforced as long as necessary to prevent unacceptable risks to human health and the environment related to the remaining contamination.

Contacts

For more information about the LTSM Program or the Salt Lake City, Utah, Processing Site, contact

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