Fact Sheet

U.S. DEPARTMENT OF ENERGY | Legacy Management

Weldon Spring Site, Missouri

A CERCLA site

This fact sheet provides information about the **Weldon Spring Site**. Long-term stewardship responsibilities for this site are managed by the **U.S. Department of Energy Office of Legacy Management** under the **Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act**.

Site Information and History

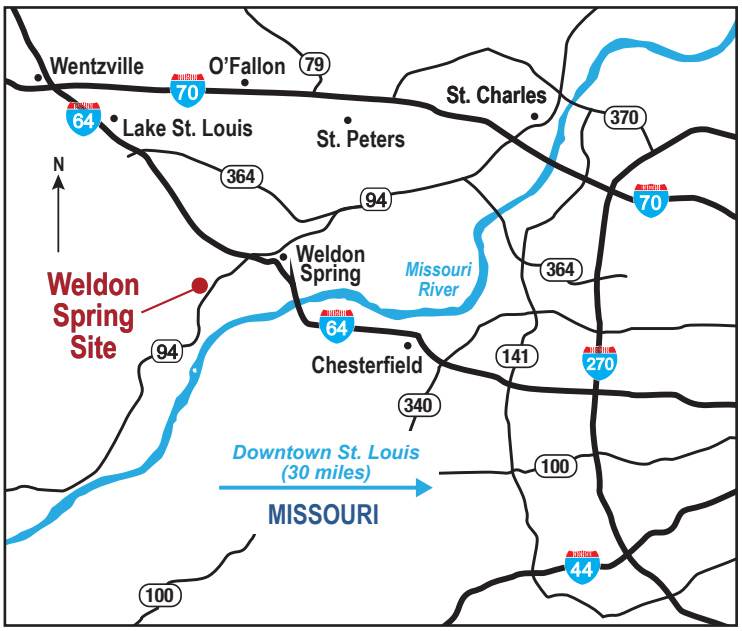
The Weldon Spring Site is located in St. Charles County, about 30 miles west of St. Louis. The site comprises two geographically distinct U.S. Department of Energy (DOE)-owned properties: the former Weldon Spring Chemical Plant and Raffinate Pit sites (Chemical Plant) and the former Weldon Spring Quarry (Quarry). The former Chemical Plant is located about 2 miles southwest of the junction of Missouri State Route 94 and Interstate 64. The Quarry is about 4 miles southwest of the former Chemical Plant. Both sites are accessible from Missouri State Route 94.

During the early 1940s, the U.S. government acquired 17,232 acres of rural land in St. Charles County to establish the Weldon Spring Ordnance Works. In the process, 576 residents of the towns of Hamburg, Howell, and Toonerville were displaced. From 1941 to 1945, the U.S. Army manufactured trinitrotoluene (TNT) and dinitrotoluene (DNT) at the Ordnance Works site. Four TNT production lines were situated on what was to be the Chemical Plant. These operations resulted in nitroaromatic contamination of soil, sediments, groundwater, and some off-site springs.

Following a considerable amount of explosives decontamination of the facility by the U.S. Army, 205 acres of the former Ordnance Works property were transferred to the U.S. Atomic Energy Commission (AEC) in 1956 for construction of the Weldon Spring Uranium Feed Materials Plant, now referred to as the Weldon Spring Chemical Plant. An additional 14.88 acres were transferred to AEC in 1964.

The plant converted processed uranium ore concentrates to pure uranium trioxide, intermediate compounds, and uranium metal. A small amount of thorium was also processed. The uranium refining process generated waste byproduct called raffinate. The raffinate was stored in four raffinate pits located on the Chemical Plant property. Uranium-processing operations resulted in the radiological contamination of similar locations previously contaminated by former U.S. Army operations.

The Quarry was mined for limestone aggregate used in the construction of the Ordnance Works. The U.S. Army also used the Quarry for burning wastes from explosives manufacturing and disposal of TNT-contaminated rubble during Ordnance Works operations. These activities resulted in the nitroaromatic contamination of the soil and groundwater at the Quarry. In 1960, the U.S. Army transferred the Quarry to AEC, which used



Location of the Weldon Spring Site.

it from 1963 to 1969 as a disposal area for uranium and thorium residues (both drummed and uncontained) from the former Chemical Plant.

Uranium-processing operations ceased in 1966, and on December 31, 1967, AEC returned the facility to the U.S. Army for use as a defoliant-production plant. In preparation for the defoliant-production process, the U.S. Army removed equipment and materials from some of the buildings and disposed of them, principally in Raffinate Pit 4. The defoliant project was canceled before any defoliant was manufactured, and the U.S. Army transferred 50.65 acres of land encompassing the raffinate pits back to AEC while retaining the Chemical Plant. AEC, and subsequently DOE, managed the site, including the U.S. Army-owned Chemical Plant, under caretaker status from 1968 through 1985. Caretaker activities included site security oversight, fence maintenance, grass cutting, and other incidental maintenance. In 1984, the U.S. Army repaired several of the buildings at the Chemical Plant; decontaminated some of the floors, walls, and ceilings; and isolated some equipment. In 1985, the U.S. Army transferred full custody of the Chemical Plant to DOE.

The U.S. Environmental Protection Agency (EPA) placed the Quarry and former Chemical Plant areas on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL) in 1987 and 1989, respectively. Remediation of the Weldon Spring site was administratively divided into four operable units (OU): the Chemical Plant OU, the Quarry Bulk Waste OU, the Quarry Residuals OU, and the Groundwater OU. The Southeast Drainage was remediated under a CERCLA removal action and documented through an Engineering Evaluation/Cost Analysis process. Remedial activities concluded in 2001 with the completion of the site's disposal cell — a 41-acre engineered structure designed to contain the site's waste resulting from the cleanup.

The Weldon Spring Site is open to the public and is an excellent example of the beneficial reuse of a former World War II explosives manufacturing and Cold War uranium metals-processing facility. The site's first interpretive center opened in 2002 and communicates site history, cleanup activities, and current conditions. The area is frequented by bird watchers, native-plant enthusiasts, hikers, mountain bikers, and others. A popular public activity is walking the disposal cell stairway and taking in the panoramic view overlooking St. Charles and St. Louis Counties. The planted 150-acre native prairie is rich with flowering forbs, grasses, and wildlife. A former haul road has been converted to the Hamburg Trail, connecting the site to the neighboring Missouri Department of Conservation (MDC) public lands, Great Rivers Greenway trail network, and Katy Trail State Park. In 2020, The U.S. EPA awarded the site with the National Federal Facility Excellence in Site Reuse Award.

Regulatory Setting

Environmental remediation at the site was conducted under CERCLA. The EPA and Missouri Department of Natural Resources provided oversight for the remediation and were involved in various aspects of the cleanup.

Current Site Conditions

The current 228.16-acre Weldon Spring site (former 219.5-acre Chemical Plant property and 8.66-acre Quarry) is open to the public. Cleanup and ecological restoration have made the Weldon Spring site home to a thriving community of prairie plants and wildlife in the planted 150-acre Howell Prairie.

Weldon Spring Disposal Cell circa 2002.

Legacy Management Activities

The DOE Office of Legacy Management (LM) manages the Weldon Spring Site. LM ensures the continued protectiveness of the site's environmental remediation, operates an ongoing groundwater and surface water monitoring network continues ecological restoration efforts, and makes information available to the public in the site's Interpretive Center and website. Periodic Five-Year Reviews are conducted at the site under CERCLA to ensure that the cleanup remedies remain protective of human health and the environment. LM also conducts annual inspections of the site to ensure compliance and protectiveness of the site. Annual reports are prepared, which include the site environmental monitoring data, inspection results, and other long-term surveillance and maintenance information. The annual reports, along with the Five-Year Review reports, are available on the website. The native prairie is monitored and managed to reduce invasive species populations with prescribed burns occasionally used as the best prairie management ecological practice.

HOURS OF OPERATION

Visitors to the **Weldon Spring Site** are welcome seven days a week at no cost. Trails, the pavilion, outdoor education area, and the disposal cell are available from dawn to dusk. The **Weldon Spring Site Interpretive Center** is open during posted hours, excluding federal holidays. Meeting room users may use the site after-hours with prior approval.

The **Hamburg Trail**, in cooperation with MDC, is available from **4:00 a.m. to 10:00 p.m.**

A full list of prohibited activities and special use permission requirements is available on-line:
www.energy.gov/lm/visit-weldon-spring-site-interpretive-center

Weldon Spring Site Interpretive Center hours of operation:
Monday through Friday: 9:00 a.m. to 5:00 p.m.
Saturday and Sunday: 10:00 a.m. to 4:00 p.m.
Closed on federal holidays, New Year's Day, Easter, and Christmas Day.

Weldon Spring Site Interpretive Center Website:
www.energy.gov/lm/weldon-spring-site-interpretive-center

The new interpretive center opened in 2021. The new facility features four classrooms, each of which seats 40 people, an auditorium seating 80 people, a 4,500 square-foot exhibit gallery with newly fabricated exhibits, and administrative office space for employees. The design of the facility adheres to the Guiding Principles for Sustainable Federal Buildings (Guiding Principles), established by the EPA in 2006. These Guiding Principles are the federal equivalent to the U.S. Green Building Councils LEED (Leadership in Energy and Environmental Design) certification, a globally recognized symbol of sustainability achievement and leadership.

CONTACT INFORMATION

IN CASE OF AN EMERGENCY AT THE SITE, CONTACT 911

LM TOLL-FREE EMERGENCY HOTLINE: (877) 695-5322

Site-specific documents related to the **Weldon Spring Site** are available on the LM website at **www.energy.gov/lm/weldon-spring-site-missouri**

For more information about LM activities at the **Weldon Spring Site**, contact:
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