NPL Site Narrative for Weldon Spring Quarry/Plant/Pits (USDOE/Army)

WELDON SPRING QUARRY/PLANT/PITS (USDOE/ARMY)
St. Charles County, Missouri

Conditions at proposal (October 15, 1984): The Weldon Spring Quarry covers 9 acres in St. Charles County, Missouri, about 30 miles west of St. Louis. During 1941-44, the Army operated an ordnance works 3 miles to the northeast of the old limestone quarry. Due to frequent spills, waste water containing sulfonate derivatives contaminated both surface water and ground water in the area, according to the U.S. Geological Survey (USGS).

In 1955, after the Army demolished and removed the works, the Atomic Energy Commission (AEC) started construction of the Weldon Spring Feed Materials Plant on the land. The Army disposed of soil and building rubble from the demolition, which were contaminated with trinitrotoluene (TNT) and dinitrotoluene (DNT), in the deepest part of the quarry. The U.S. Department of Energy (USDOE), successor to AEC, now owns the plant.

In 1957, the Weldon Spring Feed Materials Plant began converting uranium concentrates to pure uranium salts and metal. The plant also processed some thorium ore concentrates. During operations, the buildings, equipment, immediate terrain, process sewer system, and drainage easement to the Missouri River became contaminated with uranium, thorium, and their decay products, according to USDOE. During 1959-69, AEC used the quarry for disposal of drums, process equipment, building rubble, and soils contaminated with thorium, uranium, and their decay products. Also, radioactive process wastes were disposed of near the plant in four raffinate pits covering approximately 50 acres.

USDOE found elevated levels of uranium, radium, and nitroaromatics in monitoring wells adjacent to the quarry. A well field in the Missouri River alluvial aquifer and 0.5 mile from the quarry serves 58,000 St. Charles County residents.

Status (July 22, 1987): Under an August 1986 agreement with EPA, USDOE will carry out remedial actions at the quarry, as well as the plant area and nearby radioactively contaminated properties. USDOE is sampling the quarry, plant, and pit areas as part of a comprehensive remedial investigation.

USDOE estimates that the quarry contains about 95,000 cubic yards of waste. In the plant area, approximately 312,000 cubic yards of radioactively contaminated soil, equipment, and buildings would have to be removed or cleaned up to meet current USDOE guidelines for unrestricted use of the land. The disposal pits contain an estimated 220,000 cubic yards of uranium and thorium residues. USDOE surveys show that other radioactively contaminated properties, near both the quarry and the plant, require removal of about 27,200 cubic yards of soil to meet current USDOE guidelines for unrestricted use. In addition, radioactive materials have been released to surface water, ground water, and air, according to USDOE and USGS.

Status (March 13, 1989): On June 24, 1988, EPA proposed to expand this Federal facility site, which was placed on the final NPL in July 1987. EPA has determined that the Weldon Spring Feed Materials Plant

and Raffinate Pits, located less than 3 miles from the quarry, are linked to the contamination problems at the original site. No comments were received on the proposal. Therefore, the site is expanded and renamed "Weldon Spring Quarry/Plant/Pits (USDOE/Army)."

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at ATSDR - ToxFAQs (http://www.atsdr.cdc.gov/toxfaqs/index.asp) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.