

Kansas Department of Health and Environment

Bureau of Environmental Remediation, Remedial Section

Voluntary Cleanup And Property Redevelopment Program



Former Dearing Smelter

The Blue Tee Corporation applied to the Kansas Department of Health and Environment's (KDHE's) Voluntary Cleanup and Redevelopment Program (VCPRP) to clean up a major lead/zinc waste area from one of Kansas largest smelters.

Background:

The approximately 20-acre Former Dearing Smelter site was remediated by Blue Tee Corporation, a one-time owner of American Zinc, Lead and Smelting Company. The project was overseen by KDHE's Voluntary Cleanup and Redevelopment Program (VCPRP). American Zinc, Lead and Smelting Company owned and operated the smelter from 1907 to 1919, during which time smelter waste products were disposed of on-site, leaving the property unusable even for agricultural purposes.



Smelter Waste at the Former Dearing Smelter site.

Three separate investigations were conducted at the Site. In September 1992, KDHE completed a Preliminary Assessment; in 2002, as part of a KDHE state-wide investigation of former smelters, a Screening Site Inspection was completed; and in June 2005, the results of a Voluntary Cleanup Investigation (VCI) were reported by Blue Tee Corporation

The Preliminary Assessment was conducted by KDHE in conjunction with the U.S. Environmental Protection Agency (EPA). Soils were found to be above regulatory limits for both lead and cadmium. One soil sample was also analyzed for lead and cadmium using the Toxicity and Characteristic Leaching Procedure (TCLP) analyses and failed both tests, indicating that the waste is considered hazardous. A second sampling event was conducted August 10, 2002, by KDHE in which one soil sample was determined to have 18,723 mg/kg of lead, well above the Kansas Risk-Based Standards,

and also failed the TCLP analysis. Blue Tee entered the VCPRP July 22, 2004, and conducted a VCI between March 1 and March 10, 2005. A 100 by 100-foot grid system was designed to address data gaps from the previous investigations, resulting in the collection and analysis of 455 soil, water, and sediment samples. An XRF was used to analyze 392 soil samples were analyzed using an XRF and 99 of those samples were submitted to a KDHE certified lab for confirmation. The extent of lead, cadmium, and arsenic in the soil was delineated.

In a massive consolidation, Blue Tee's contractor, Entac, moved and capped 7,000 cubic yards of smelter waste and rubble. Building foundations were demolished, smelter waste material consolidated, and the property graded, forming the base of a 22-inch thick protective cap approved by KDHE. The engineered cap was designed to control and direct surface water flow to a collection settling pond before leaving the site. As part of the cleanup, a three acre kidney-shaped borrow pit (now a beautiful pond) was created for aesthetics and recreation.



Seventeen acres of native grass planted to protect the cap and supply hay for livestock.

Redevelopment:

The property has been capped and redeveloped resulting in 17 additional acres of native grass and the creation of a three-acre pond.

Benefits:

- **7000 cubic yards of impacted soil and waste removed from human contact.**
- **The property has been redeveloped to enhance both agricultural production and recreation.**