

ENVIRONMENT & ENERGY / ENVIRONMENTAL REMEDIATION

PROJECT: Environmental Remediation
Technologies: *Sustainability Plan for the A/M Area Groundwater Remediation System*

CLIENT: US Department of Energy
PRINCIPAL INVESTIGATOR: Dr. Leonel Lagos
LOCATION: Savannah River Site, Aiken, SC

Description:

This task supports US DOE (EM-13) in developing a set of proposed actions for the existing infrastructure of the groundwater remediation system that will reduce the environmental burden of the A/M Area groundwater remediation system.

Analysis and state-of-the-art modeling tools are being applied to enable DOE-EM to incorporate sustainability metrics into their environmental management decisions. The research would apply to subsurface and surface contamination and supplement traditional risk paradigms to help develop interim and final remediation end-states and improved designs for stripper ops and components.

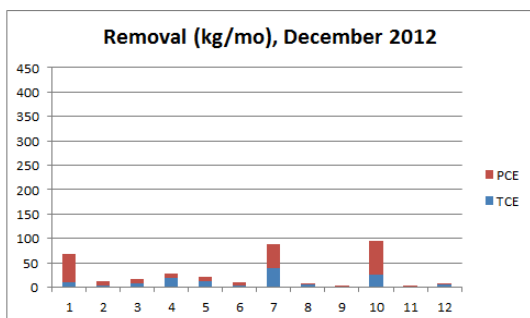
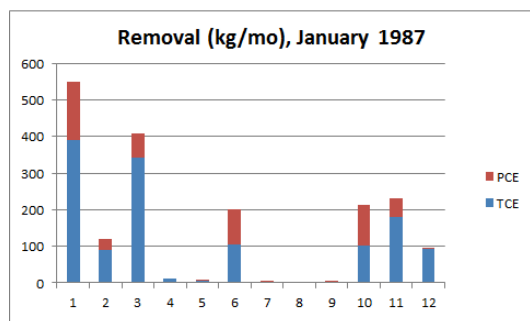


Fig. 1: Removal of TCE & PCE in 1987 and 2012



Fig. 2: M-1 Stripper System

Benefits:

- Provides state of the practice tools (developed for DOD sites) for analysis of sustainable and green remediation alternatives, which are needed to address long-term sustainability in terms of reduced environmental and energy footprints of remedial actions.
- Greatly lowers costs and improves effectiveness of remediation strategies applicable to soil, groundwater, radioactive waste, and facility D&D.
- Finding alternatives for remedial, monitoring, waste handling, and D&D design will save money and support sustainable, compliant decision-making.
- Identifies sustainability factors for the investigation, construction, operation, and long-term monitoring phases for estimating footprint of remedial alternatives.
- Provides a decision matrix for remedy selection, design, or implementation and allows for remedy optimization.

Accomplishments:

Completed and submitted two major Sustainable Remediation reports:

- *"Green and Sustainable Remediation Practices, Tools and their Application at DOE Office of Environmental Management Sites"*.
- *"Baseline Summary Report for Sustainable Remediation Options for the M1 Air Stripper at DOE SRS"*.

Project Contact: