



ENVIRONMENT & ENERGY / ENVIRONMENTAL REMEDIATION

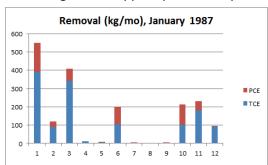
PROJECT: Environmental Remediation
Technologies: Sustainability Plan for the A/M
Area Groundwater Remediation System

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



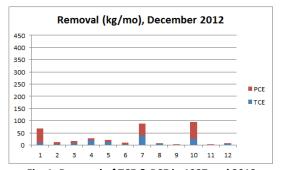


Fig. 1: Removal of TCE & PCE in 1987 and 2012



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".

Since 1995, the Applied Research Center (ARC) at Florida International University (FIU) has provided critical support to the Department of Energy's Office of Environmental Management (DOE-EM) mission of accelerated risk reduction and cleanup of the environmental legacy of the nation's nuclear weapons program. ARC's applied research is performed under the DOE-FIU Cooperative Agreement (under Contract # DE-EM0000598) and provides technical support to DOE EM in the area of environmental remediation and STEM workforce development and training.

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