The NETTS Location at Former Wurtsmith AFB

CU-864

NETTS Summary

The Tri-Service and EPA test locations of the SERDP National Environmental Technology Test Site (NETTS) program comprise a network of well-characterized demonstration sites at DoD installations. The goal of this SERDP-funded program is to provide accessible, well-supported field locations for project proof-of-principle tests, applied research, and comparative demonstrations, as well as to facilitate transfer of innovative environmental technologies from research to full-scale use. The SERDP NETTS program was created primarily for DoD, DOE, and EPA users, but the locations are also available to other agencies and the private sector.

Site Background

The National Center for Integrated Bioremediation Research and Development (NCIBRD) is located at the former Wurtsmith AFB in Oscoda, MI, and is supported in part by SERDP funding through the U.S. EPA. Wurtsmith AFB is a former Strategic Air Command B-52 Base. It is currently under the authority of the U. S. Air Force Base Conversion Agency which has responsibility for the cleanup and conversion to civilian use of the more than 50 contaminated sites and associated properties. There are numerous sites on base that have been or can be used as evaluation platforms for in-situ characterization and cleanup technologies. The location maintains a controlled release facility, Michigan Integrated Remediation Technology Laboratory (MIRTL), in which natural and controlled gradient in-situ groundwater experiments can be run. Controlled releases of dissolved fuel contaminants and various tracers have been conducted in the two existing test lanes. The facility maintains monitoring networks at specific sites on a quarterly basis, a network of water level recorders base-wide, as well as a relational database which prospective collaborators and demonstrators may use to view historical data.

Experimental lanes at the MIRTL. The MIRTL is a controlled release facility in which natural- and controlled-gradient, in-situ groundwater experiments can be conducted.

Site Objective

This NETTS location focuses on several specific problems relating to the development of core biotechnologies such as the enhanced understanding of microbiology and biochemistry, improved means for implementing biotechnology in engineering applications, and remediation of contaminated soils. The facility is focusing on bioremediation technologies having evident promise for complete and cost-effective remediation with minimal environmental disruption. These innovative technologies involve on-site and in-situ processes that integrate enhanced biological technologies with the physicochemical techniques employed for contaminant source removal or control.

Demonstrations Hosted*

Title	Performer
Understanding and Modeling Hydrobiogeochemical Processes that Control Groundwater Redox Zonation	USGS
Anaerobic Reaction Zone Formation for In-Situ Reductive Bioremediation of Chloroethenes Using Electrode Potentials	USEPA
DNA Fingerprinting of Genetic Diversity	USEPA
Cost-Effective Monitoring Design for Intrinsic Bioremediation	Univ. of Illinois
Lipid and Nucleic Acid Signature Biomarker Analysis in Support of Pollution Remediation	Univ. of Michgan
Chemical Oxidation and Enhanced Bioremediation of Motor Fuel/MTBE Mixtures	Univ. of Tennessee

* List represents a sample of ongoing demonstrations at the site.

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