SERDP
Strategic Environmental Research and Development Program

Cleanup
CU-866

The NETTS Location at Dover AFB

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 SERDP-funded Dover National Test Site (DNTS) is the U.S. Air Force Research Laboratory (AFRL) contribution to the NETTS Program. The primary focus of the DNTS is a Contained Release Facility to research and demonstrate technologies for detection, monitoring, and remediation of dense, non-aqueous phase liquids (DNAPL) in the soil and groundwater. However, most areas of the base are available for demonstrations under the NETTS program. DNTS is designed to support the needs of demonstrators of environmental technologies for the cleanup of soil and groundwater which are contaminated with fuels, solvents, and MTBE. The subsurface of DNTS consists of a water table aquifer of 35 to 45 feet of fine to medium sands with some silt and gravel. Discontinuous clay lenses are present. The average hydraulic conductivity is 1×10^{-3} cm/sec. Depth to the water table is approximately 25 feet. DNTS includes designated areas in which permitted and contained DNAPL releases can be conducted. These areas are double-walled sheet piles driven into the subsurface and keyed into a confining aquitard approximately 45 feet below the surface.

Aerial View of the DNTS showing support building, waste tank farm, and Rubb structures enclosing contained-release test cells.

Site Objective:

The DNTS provides established on-site management and regulatory interfaces to the demonstrators. The construction and operation activities that facilitate demonstrations have included: (1) detailed characterization and field support; (2) installation of test cells and monitoring wells; (3) provision of temporary buildings, laboratory, and office space; and (4) utilities to individual test plots. DNTS also provides disposal of associated wastes.

Demonstrations Hosted*:

TITLE	PERFORMER
Enhanced Source Recovery (Air Sparging, Soil Vapor Extraction, Cosolvent Mobilization, Surfactant Solubilization)	USEPA-NRMRL
Permeable Reactive Barriers for In-Situ Treatment of Chlorinated Solvents	AFRL
Long-term Performance of Permeable Reactive Barriers	NFESC
Cometabolic Bioventing of TCE	USEPA-NRMRL
Material Property Estimation for Direct Detection of DNAPL Using Integrated GPR Velocity, Imaging, and Attribute Analysis	DOE/Univ. of Wyoming
Biodegradation of DNAPL Through Bioaugmentation of Source Areas	NFESC

* List represents a sample of demonstrations at the site.

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