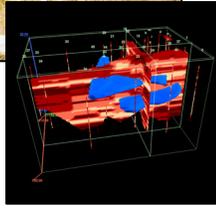




U.S. Army Engineer
Research and Development Center



3-D Contaminant Visualization Site Characterization/Monitoring

Description of Technology

The Site Characterization and Analysis Penetrometer System (SCAPS) consists of a highly mobile 20-ton penetrometer truck, advanced sensor, and hybrid sensor/samplers to characterize geophysical and contaminant properties in subsurface media (soil and groundwater) in situ, near real-time data acquisition and processing system, and 3-D visualization modeling capability.

Benefits

The system provides onsite 3-D visualization of soil stratigraphy and contaminant plumes, reduces analytical costs, determines areas free of contamination, and optimizes the number and placement of monitoring wells.

Compared with conventional drill and sampling techniques, this technology typically saves between 25 and 50 percent of the time and cost to locate and characterize contaminants at a site.

Significant Accomplishments

Sensors have been developed and demonstrated for characterizing subsurface petroleum products, explosive compounds, volatile organic compounds (VOC), metals, and gamma-emitting radionuclides.

The Tri-Service SCAPS Hydrosparge VOC Sensor and the SCAPS Thermal Desorption Sampler (Vadose zone VOC sensor) contaminant sensing technologies recently completed Environmental Security Technology Certification Program (ESTCP) sponsored technology verification demonstrations and received California Environmental Technology Certification by the California Environmental Protection Agency, Department of Toxic Substances Control.

Point of Contact

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