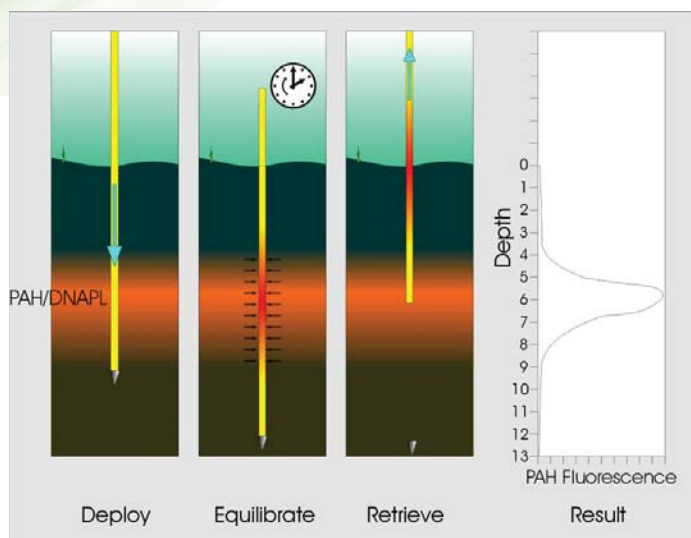


DARTS

Screening Tool for PAHs in Sediments

The Dart system is designed to quickly and inexpensively screen for polycyclic aromatic hydrocarbons (PAHs) in sediments and similar soft soils, where LIF, traditional soil boring, and other mechanized sampling methods are difficult, if not impossible.



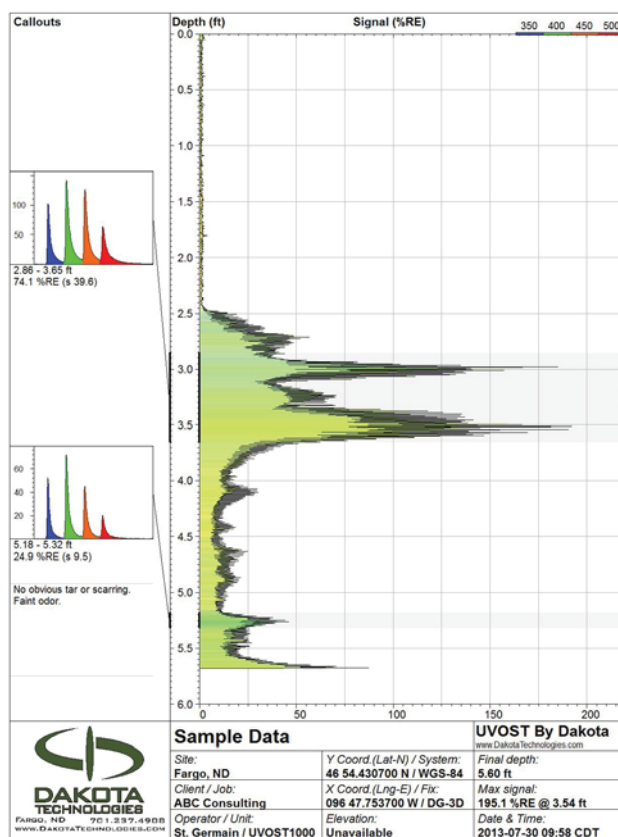
The Dart sampler is comprised of a continuous rope or rod made from or coated with solid-phase extraction (SPE) media – the same type of materials used in labs for EPA-approved cleanup and pre-concentration of PAHs in traditional grab samples. PAHs are attracted to and absorb into the SPE media. Once the PAHs have migrated into the Dart, they are held in solid solution and remain trapped there almost indefinitely.



Dart logging system including lathe-based reader and UVOST system.

Field Deployment

The Dart samplers are inserted into the sediments and left in place for 24 hours to allow PAHs to transfer into the SPE cladding. Buoys are used to pre-mark the Dart locations. Darts can be placed by hand into sediments by divers, or by other methods including Vibracore and power post drivers. Short lengths of floating cord attached to each Dart allows easy retrieval after 24 hours. After retrieval, the Darts are wrapped in aluminum foil and taken to shore and shipped to Dakota lab for UVOST analysis if not performed onsite. Analysis of each Dart takes about 30 minutes.



The Dart system is particularly well suited for characterization work in shorelines, marshes, or shallow bodies of water adjacent to former MGP or creosote sites, where profiling PAHs sediments has been difficult and expensive.



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