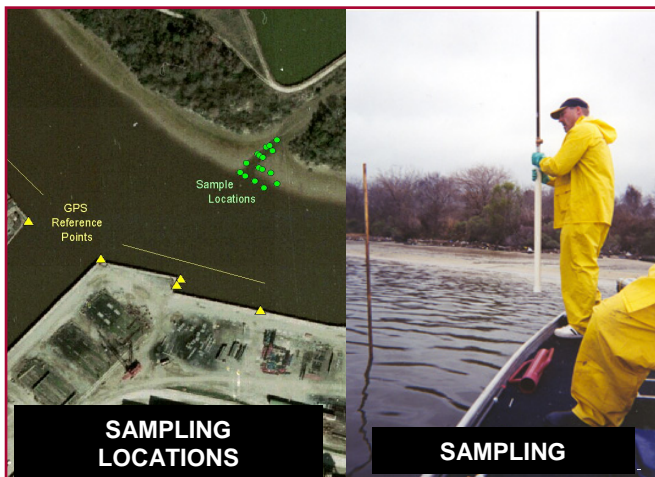




Summary of Recent Projects

Area of Work: *Environmental Forensics*

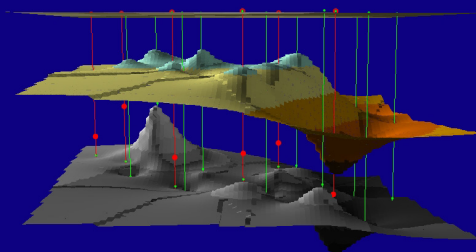
Project Description: Source Identification, Chemical Fingerprinting and Release Mechanism Determination for Pesticide-Contaminated Sediments



AquAeTer was retained by this client to perform a comprehensive sediment sampling and analyses to determine the cause(s) and timing of releases of DDT and its metabolites, Lindane and its isomers, and arsenic from a former manufacturing facility. A multi-phased plan, involving sampling and analysis of sediments, followed by mixing with fly-ash, leaching, and then reanalysis of the sediments and leachate, was performed to confirm that while the concentrations of the constituents of concern were quite low in the leachate from unstabilized and/or stabilized sediments, the concentrations in the sediments themselves can actually be much higher. Concentrations of total DDT as high as 200,000 ug/kg were identified in sediment cores. Further sampling at the highest concentration location produced a homogeneous sediment sample with a total average DDT concentration of 32,000 ug/kg. Chemical and physical fingerprinting approaches were used to confirm and trace the releases.

AquAeTer provided the following services to its client for this project:

- Development of comprehensive health & safety and sampling & analyses plans;
- Core sampling of surface sediments to a depth of two feet;
- Sediment processing and stabilization using bottom ash;
- Sediment testing using Toxicity Characteristic Leaching Procedure (TCLP) and Synthetic Precipitation Leaching Procedure (SPLP) Analyses;
- Laboratory data validation; and
- Evaluation of sediment transport fingerprinting alternatives including metal concentration, radiological analyses and electron microscopic examination methods.



3-D MODEL OF SEDIMENT SAMPLING

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