

Cost: \$30 Preregistered members; \$35 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.

Pre-registration without payment will not be accepted.

Walk-ups may pay at the door if extra seats are available.

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Soil Sampling Utilizing Horizontal/Directional Drilling Methods

Horizontal/directional drilling (HDD) methods have been utilized in the environmental drilling industry for the installation of monitor and remediation systems. New refinements in drilling equipment, steering/locating technology and sampling tooling have given consultants, site owners and drillers the ability to use the technology to obtain soil samples using HDD technology.

The specific tooling technology includes a variety of soil samplers for use in multiple types of geologic conditions. The equipment is designed for use with small (less than 25,000 lb. capacity) drilling rigs which require a small surface operating footprint.

Benefits of the method include:

- Accessing areas under obstructions limiting or preventing the use of vertical drilling equipment.
- Steerable drilling assembly allows for multiple samples from one borehole or rig up location.
- Bore entry point can be located in areas where overlying formations are not contaminated, eliminating the potential for cross-contaminating vertical formations.
- Reduce crew risk by moving the drilling equipment from hazardous locations; e.g., busy roadways, ponds and manufacturing-operating units.

Several recent projects detailing the effectiveness of horizontal/directional soil sampling operations will be examined, including sampling beneath a river, sampling beneath a waste storage lagoon, and sampling beneath a landfill. ■

Biographical Sketch

DAVID BARDSLEY has over thirty-one years of water supply/environmental drilling experience working in a variety of settings across the United States. He started his career as a drill rig helper advancing through various technical and managerial positions in both small and large companies. He is familiar with all of the drilling techniques utilized in the industry including;



auger, air/mud rotary, casing advance, sonic, dual tube, direct push and wireline coring. He was an early leader in the use of horizontal drilling to solve environmental challenges and has authored/co-authored over twenty papers on horizontal environmental drilling methodology. David has been directly involved in the design and installation oversight of over 100,000' of horizontal environmental wells including seventy-six blind well completions. Mr. Bardsley has a Bachelor of Science degree in Geology & Geophysics along with a Communications Minor (1984) from the University of Missouri-Rolla. He is a licensed well driller in Texas, Arizona and Louisiana and holds RG/PG certifications in Texas, Missouri, Louisiana and Tennessee. Mr. Bardsley is a strong proponent of education and has served as a short course instructor at Battelle environmental conferences and University of Wisconsin Madison along with presenting environmental drilling training to students at University of Arizona and University of Louisiana at Lafayette.