Multiport Sock Samplers; a low cost technology for effective multilevel ground water sampling

I. Jones,[1,2], D.N. Lerner[1,2], and O. P. Baines[1].

Multiport Sock Samplers; a low cost technology for effective groundwater sampling. **Groundwater Monitoring and Remediation**, Winter 1999, pp. 134-142.

[1] Ground Water Protection and Restoration Research Unit (GWPRRU), Department of Civil and Environmental Engineering, University of Bradford, Bradford, West Yorkshire, BD7 1DP, UK.

[2] Now at The Groundwater Protection and Restoration Group, Department of Civil and Structural Engineering, University of Sheffield, Mappin Street, Sheffield, S1 3JD, UK.

ABSTRACT

The importance of obtaining depth-specific ground water samples is now well recognised amongst practitioners and scientists alike. Many methods and technologies are available for level discrete or depth-specific ground water sampling in consolidated aquifers. All methods have their associated advantages and drawbacks, however, one common disadvantage is that they are expensive. A large number of point discrete ground water samples were required for a UK research project aimed at quantifying natural attenuation processes in ground water contaminated by a former coal carbonisation plant. Based on experience from a previous project to develop novel level accurate sampling methodologies for use in existing boreholes, the Ground Water Protection and Restoration Research Unit (GWPRRU) produced and tested a low cost design of Multiport Sock Sampler for ground water monitoring. The Sock Sampler design allowed the recovery of multiple depth-specific ground water samples from depths of 150 feet (45 m), from individual boreholes in the sandstone aquifer at the field site. Because of their use of inexpensive materials, simple design, installation and use, not requiring any gravel packs, packers or grouting; Sock Samplers were found to be the most cost effective, convenient and reliable method of obtaining multiple depth-specific ground water samples at the project field site.n tested on the Wilmington public supply source in southeast England.