

# Fact Sheet

## DECONTAMINATING GROUNDWATER SAMPLING DEVICES

### BACKGROUND

A literature review revealed that although numerous decontamination protocols for groundwater sampling devices have been published, there has been almost no study on the efficiency of these protocols. Thus, there is little scientific justification for the decontamination procedures currently promulgated by regulatory agencies.

### FINDINGS

*Test coupon studies.* In these studies, various decontamination procedures were tested on small test pieces of the various materials used in groundwater sampling devices. Materials included nonpermeable materials, such as stainless steel, and permeable materials, such as rigid and flexible polymers. The results showed that the following decontamination procedure was effective for removing several VOCs (including one nitroaromatic) and pesticides from these materials: wash with a hot detergent solution, rinse with hot water, and dry with hot (105°C) air. Rinsing with an organic solvent was either not effective or much less effective than the hot air treatment.

*Groundwater sampling devices studies.* In these studies, a bailer and a bladder pump were used to sample groundwater contaminated with either trichloroethylene (TCE), explosives, or pesticides. The results showed that the procedure developed in the previous study is effective in decontaminating the bladder pump and bailer in most circumstances. The exception to this was trying to decontaminate TCE-contaminated tubing that was also sensitive to thermal degradation. We recommended additional testing to determine the optimum drying time and temperature for those polymers that are subject to degradation by heat.

### PUBLICATIONS

Parker, L.V., and T.A. Ranney (1997) Decontaminating groundwater sampling devices. USA Cold Regions Research and Engineering Laboratory, Special Report 97-25.

Parker, L.V., and T.A. Ranney (1997) Decontaminating materials used in groundwater sampling devices. USA Cold Regions Research and Engineering Laboratory, Special Report 97-24.

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