

NEW MONITORING WELL PURGING AND SAMPLING PROCEDURE

WHY: The new monitoring well purging and sampling procedure, EPA Region I Low Stress (low flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells, July 30, 1996, was written to standardize the collection of ground water samples from monitoring wells, and to improve resultant data quality.

Historically, total (unfiltered) metals samples have been collected and analyzed to determine the potential human health risk associated with ground water ingestion. However, conventional ground water sampling methods often overestimated metals concentrations due to artificially elevated particulate loading. To circumvent the problem of elevated particulate loading, field filtration of water samples was often performed. In doing so, contaminant loads and, therefore, the potential human health risk, could be drastically underestimated for filtered water samples.

Recent technical literature and regional sampling experience indicate that use of this low stress purging and sampling procedure improves data quality for all inorganic and organic ground water sample results. The major benefit is that the water quality data generated using this new procedure will be more reproducible and representative of actual ground water conditions. Reasons for this include:

- Purging and sampling operations are more controlled,
- Pumping stresses are minimized,
- Objective measurement criteria are used to determine when sampling should begin, and
- Operational variability between sampling events is minimized.

WHAT: This procedure provides a general framework for collecting ground water samples that are indicative of mobile organic and inorganic loads at ambient flow conditions (both the dissolved fraction and the fraction associated with the mobile particulates). The procedure is directed primarily at monitoring wells that can accept a submersible pump and have a screen, or open interval, of ten feet or less. This procedure, however, is flexible and can be used in a variety of well construction situations. Samples obtained utilizing this procedure are suitable for the analysis of ground water contaminants (volatile and semivolatile organics, pesticides, PCBs, metals and other inorganics) and naturally occurring analytes. This procedure is not designed to collect ground water samples from wells that contain LNAPLs or DNAPLs.

WHO: This new procedure is intended for use by numerous stakeholders, including EPA and its contractors, States, Tribes, other Federal Agencies, PRPs, industry and the public. It serves to standardize ground water sampling procedures for programs that generate or use water quality data from monitoring wells to make environmental decisions. This procedure is especially pertinent to ground water sampling performed at Superfund and RCRA sites.