

## BAT Groundwater Sampling (BAT)

Gregg utilizes a BAT groundwater sampling system when limited volumes of water and gas samples are required (<120 mL). The BAT groundwater sample system consists of three basic components:

1. A sealed filter tip with a retractable sleeve attached to the push rods
2. An evacuated and sterilized glass sample vial, enclosed in a housing and lowered to the filter tip via a wire line system
3. A disposable, double-ended hypodermic needle which makes a hydraulic connection with the groundwater by puncturing the self sealing flexible septum in the filter tip.

The filling rate of the groundwater sample vial is monitored using a pore pressure transducer attached to the vial. Monitoring the fill rate shows when groundwater infiltration is complete; assuring that pressure inside the vial is equal to the in situ groundwater pressure. Pressure measurements can then be used to estimate the hydraulic conductivity of the soil.

The BAT groundwater sample system has a small filter size allowing for discrete sampling intervals, but may create longer sampling time in less permeable soils. The protective sleeve and relatively tiny filter screen produces water samples with low turbidity.

Advantages of the BAT groundwater sampling system is the increased quality that comes from the sample never coming in contact with air or technicians. There is no cross contamination and samples are pressurized when removed. Sampling is not sensitive to human error and maintains a high quality every time.

