



Dissolved Hydrogen Sampling

Technical Guidance from Microseeps

Sampling
Questions?

Call
800-659-2887
Mon. - Fri.
9 -5 EST

Choosing A Pump for Sampling

- Use a peristaltic pump if possible such as the Geopump II.
- If a submersible pump is used, there must be no current passed down-hole. An air-actuated pump is preferred.
- Do not use a Grundfos Redi-Flow II.
- If a bladder pump is used, the surge of the fill-and-squeeze cycle can create flow rates well above the optimum 300 ml/min. To compensate for this, use one of the following options:
 1. Decrease the duty-cycle as much as possible so that the bladder does not completely fill and these rapid flow rates are not generated.
 2. Get a five-gallon bucket, place the pump effluent hose into the bottom of the bucket and start the pump. When the bucket is near full, the standing water in the bucket can be used as a protective layer to impede atmospheric contamination of the dissolved gas content of the water at the bottom of the bucket. Use the bucket as a surge tank and use a peristaltic pump, with the intake hose placed near the end of the bladder pump effluent hose, to pump water from the bottom of the bucket and through the bubble strip apparatus.

Collecting the Sample

Low-Flow Purging

- Measure the depth to water (DTW) of the well and the total depth.
- Use a variable speed pump and direct the pump effluent through a flow-through cell that contains properly calibrated probes for conductivity, pH, temperature and D.O. Ensure that the effluent of the pump leads into a proper waste receptacle.
- Begin pumping at the fastest rate possible without displaying significant draw-down.
- If the static head decreases more than a half inch, decrease the flow-rate, record the new DTW and continue.
- Purge until readings from the flow-through cell stabilize. (Three successive readings taken five minutes apart should all be within 10% of their mean.)
- If purging is done appropriately, stabilization will occur rapidly after one well volume of water is pumped.
- Begin recording probe readings after one well volume is purged.

Use the time from initial pumping to flow-through readings stabilization to set up sampling equipment and containers and complete the paperwork required for sampling record-keeping.

