

Combination Hydraulic Profiling Tool & Groundwater Sampling Probe (HPT-GW)

The HPT function of this tool is essentially the same as used in other Geoprobe® HPT tools; a downhole transducer is used to record the pressure required to inject a measured flow of water into the formation as the tool is advanced to depth. In the case of the HPT-GW Sampler the typical injection flow rate is 500 ml/min. The HPT log can be used to determine hydrostatic pressure (and thus predict position of the water table) and to estimate formation hydraulic conductivity.



The HPT log of this tool serves the additional purpose of indicating zones that are appropriate (exhibit sufficient permeability) for groundwater sampling. The operator can stop advancement of the tool in these zones and switch to groundwater sampling mode.

Changeover from logging mode to groundwater sampling mode is a simple and quick process. Groundwater samples are pumped to the surface using a Geoprobe® Mechanical Bladder Pump (MBP) incorporated into the top of the HPT-GW Sampler. A ¼ inch (6.4mm) OD Teflon® tube is commonly used as the sample flow line from the pump to ground surface. Typical flow rate during groundwater sampling with this tool is 200 ml/min. However this rate can be varied from 25 to 300 ml/min by adjusting the speed of the pump electric actuator. Unlike conventional Geoprobe® HPT logging tools, this tool has multiple HPT ports for groundwater sampling.

- Groundwater samples at multiple depths in one push
- Complete HPT log data while groundwater profiling
- HPT pressure log and EC log are used to identify sampling intervals
- Time files provides documentation of sampling events at each interval
- Down-hole bladder pump permits groundwater sampling from deep zones



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