

Ground Water Sampling and Well Development

Capabilities of the Site Investigation Field Unit (SIFU)

Overview

SIFU uses portable ground water sampling equipment to sample monitoring wells located in any environment. Stainless steel bladder pumps of various sizes (3/4" and 2") provide the capability of low-flow sampling for wells as small as 3/4 inch in diameter. Disposable sampling equipment (tubing and bladders) is used to minimize cross contamination between wells.

Well Sampling

Sampling is conducted using low flow techniques in order to obtain a representative ground water sample from the pump level. The ground water is pumped through a flow-through cell containing a measuring sonde which monitors ground water stabilization parameters such as pH, conductivity, temperature, dissolved oxygen, ORP and turbidity. Sampling is conducted when parameter readings and ground water levels are stable. This ensures that fresh formation water from the aquifer and not water from the well casing is being sampled.

When conditions warrant, SIFU can also use other ground water Sampling/pumping equipment such as peristaltic pumps, bailers and submersible variable flow pumps capable of sampling at depths of up to 200 feet.



Bladder pumps with control box



Compressor and controller for sampling with the bladder pump

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Photos of assorted ground water sampling equipment.



Peristaltic pump.



Water Quality Meter and Flow-through cell.



Turbidity Meter.



Collecting a volatile sample.

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Developing a monitoring well

Well Development

A Waterra Hydrolift II inertial lift pump is used to develop monitoring wells up to 4 inches in diameter. It uses mechanized pumping action with a check valve and tubing along with optional surge block techniques to purge and/or surge the water column in order to remove suspended solids. This process ensures that fresh ground water flows through the well screen. When used with a submersible pump, wells can often be developed to turbidity levels of less than 10 nephelometric turbidity units (NTUs) in many formations.