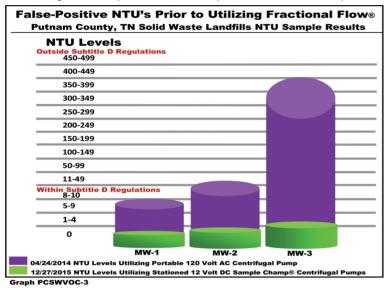
## ELIMINATING THE BURDEN OF FALSE-POSITIVE NTUs UTILIZING FRACTIONAL FLOW GROUNDWATER SAMPLING METHODOLOGY

"Since the promulgation of the Subtitle D Regulations in the early 1990s, the U.S. Environmental Protection Agency (USEPA) has issued groundwater sampling protocols relative to the collection of samples with Nephelometric Turbidity Units (NTUs) to be less than 10. Sampling methods were limited in Tennessee, primarily to the use of bailers. The main reason for using bailers was attributable in part to the high cost of dedicated pumps. Even if pumps were permanently installed, the pumps available on the market at that time were unable to operate at flows low enough to avoid volatilization of organic compounds and had potential to heat samples."

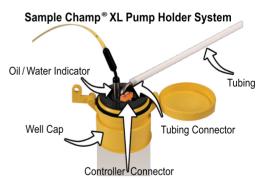


"The Limited capabilites and options of groundwater sample collection equipment left numerous county-owned municipal waste landfill sites (many which closed after the promulgation of Subtitle D Landfill Regulations) with the burden of false positive dectection of inorganic compounds in groundwater samples, primarily attributable to high turbidity readings."

Fortunately, the development of innovative and economical low flow sampling methodologies that incorporates Sample Champ® pump systems successfully provides continuous, steady low flow rates reflecting much more accurate turbidity readings.

More specifically, accurate turbidity level readings eliminated false positive detections. As a result, the number of inorganic compounds detected above the practical quantitation level (PQL) is significantly reduced. "Using stationed Sample Champ® pumps, samples were collected from groundwater monitoring wells at three specific landfills in Tennessee. All wells at Putnam County Landfill (see appendix PCSWVOC-3) have the most accurate NTU readings in the landfill's history. NTU levels with dedicated Sample Champ® pumps are now below 10 NTUs."





Additional benefits of the Sample Champ® pump line are that it is 12 Volt DC battery-powered and is simple to operate. Being that the pumps are stationed in the wells, set up takes 5-7 minutes per well, and delivers peace of mind from eliminating cross contamination potential. The Proactive® pump holder seats on the top of the well riser. It offers quick connection to the tubing and controller connector, with a cut-out for a water level indicator. The compact variable speed controller (roughly 9" in length and about 6 pounds) contains a LCD Voltage Display that allows for the correct voltage output to reach the pump, with the ability to streamline the groundwater sampling field records, and allows the groundwater technician to achieve under 50 mLs/minute.

"The Sample Champ® pump is of GREAT VALUE to the groundwater sampling technician!"

## Explore Your Options!®

**Geologist - TN** 

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