



## PFAS Bench-scale Study

HydraSleeve

### Summary

<b>Media:</b>	Groundwater, surface water
<b>Study Type:</b>	Bench-scale comparison study
<b>Technology:</b>	Grab sampler
<b>Peer Reviewed:</b>	No
<b>Publication Date:</b>	January 2024

### Study Description

Bench-scale study using a 74-liter test chamber spiked with PFAS. 40 PFAS as analyzed by Method 1633-Draft. HDPE HydraSleeve passive grab sampler

This study was conducted to provide a controlled-environment evaluation of the use of the HDPE HydraSleeve for obtaining representative concentrations of PFAS at low-ng/L concentrations in aqueous environments.

### Remedial Phase

All

### Outcome

The study showed that HDPE HydraSleeves and manufacturer-provided suspension tether components do not leach PFAS into samples acquired using the HydraSleeve and therefore do not bias samples high, even at low concentration, single-digit ng/L (parts per trillion) levels, for the 40 PFAS analyzed using EPA Method 1633-draft.

The study also showed that HDPE HydraSleeves acquire samples that closely represent the test environment, as determined by their high positive correlations with control samples taken directly from the test environment. In most cases the results from HydraSleeve samples were within 2–3 ng/L of the average of two control results. In many cases, the individual PFAS concentrations were within the range of difference to the control samples as the two controls were to each other.

The study also demonstrated that allowing samples to reside in HydraSleeves for 20 minutes after sampling did not cause a noticeable change in concentration from HydraSleeve samples collected within 5 minutes of sampling. This demonstrates that HDPE HydraSleeves do not adsorb PFAS from samples between the time of acquisition and discharge to sample bottles, even if the discharge is delayed for 20 minutes, and therefore do not bias samples low.

The test data demonstrated that sampling for PFAS using HydraSleeves produces samples with PFAS concentrations that are statistically representative of concentrations in water surrounding the sampler at this site.

### Case Study Source

Bradley Varhol & Alyssa Varhol. Assessing HydraSleeve Samplers for Acquiring Representative PFAS Concentrations in Aqueous Environments--Bench Scale Study. Website: <https://eonpro.com/wp-content/uploads/2024/01/HydraSleeve-PFAS-Sampling-Bench-Scale-Study-1.pdf>.



## References

The Standard Operating Procedure for the HydraSleeve, including the HDPE “SuperSleeve” for PFAS and all other standard configurations and variations, can be found at <https://www.eonpro.com/wp-content/uploads/2023/04/HydraSleeve-SOP-2.0-2023-1.pdf>.