

# Pilot Study to Assess Sampling for PFAS Using Existing Teflon™ Sampling Equipment

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## BACKGROUND

The subject site is a Superfund Site and is a former landfill used to dispose of solid wastes, including fabric scraps and drummed solids/liquids from a former textile mill.

### COCs:

- SVOCs - [bis(2-ethylhexyl)phthalate (di[2-Ethylhexyl]phthalate) (DEHP)]
- Manganese
- VOCs

**Problem:** We needed to perform PFAS sampling at the site, but certain components of the dedicated sampling equipment (bladder pumps [18] and sample tubing) contain Teflon™. Could PFAS samples be collected without being influenced by the Teflon™ in the equipment?

**Solution:** We collected an equipment blank sample from one of the existing bladder pumps to evaluate if PFAS was leaching from the sampling equipment. If PFAS were not present in the equipment blank, then the existing equipment would be suitable for sampling for PFAS.

## PILOT STUDY TEST

We removed an existing bladder pump and tubing from an on-site monitoring well and collected an equipment blank sample utilizing a capped two-inch PVC pipe.

### Methodology:

- Decontaminated PVC riser with Alconox®, distilled water, and a PFAS-free water rinse
- Collected equipment blank sample from PVC pipe, utilizing PFAS-free water
- Pulled pump from well, placed tubing on poly sheeting, drained pump and tubing, and decontaminated exterior of pump with Alconox®, distilled water and PFAS-free water rinse
- Placed pump in PVC pipe, purged approximately 6.5 L of PFAS-free water
- Drained PVC of water; refilled with fresh PFAS-free water
- Purged three bladder and tubing volumes (approx. 700 mL) and collected sample
- Submitted samples to Alpha Analytical of Mansfield, Massachusetts for analysis of 24 list of PFAS by EPA Method 537(M) modified to use isotope dilution. QC samples submitted to lab included PVC Pipe Equipment Blank, Trip Blank, and Field Blank



## ANALYTICAL RESULTS

Of the 24 PFAS tested for, none were detected above the laboratory reporting limits for:

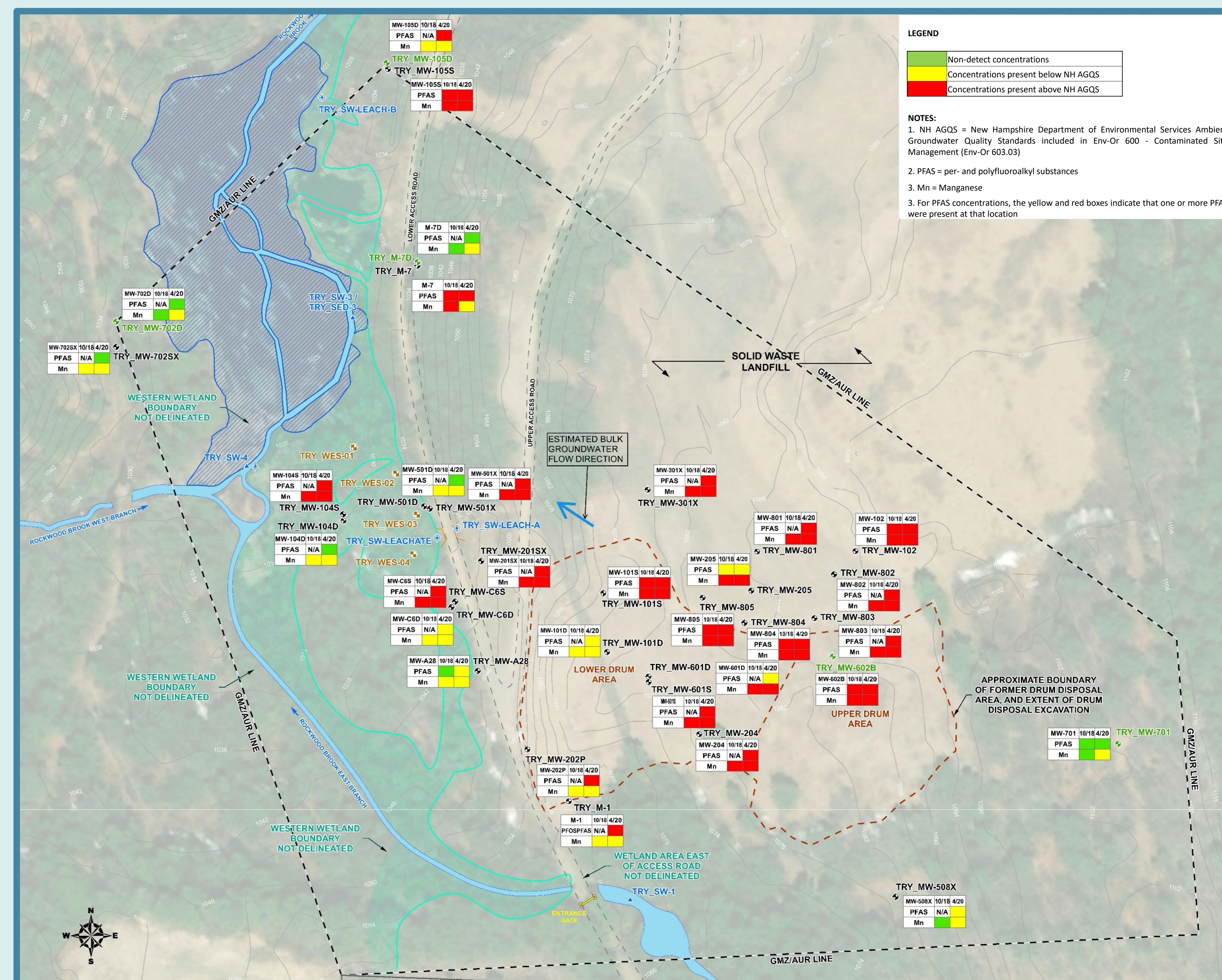
- Bladder Pump Equipment Blank: <1.78 ng/L
- Field Blank: <1.82 ng/L
- PVC Pipe Equipment Blank: <1.82 ng/L
- Trip Blank: <1.84 ng/L

## CONCLUSION

GZA and the New Hampshire Department of Environmental Services (NHDES) concluded that because no PFAS were detected in the bladder pump equipment blank, then the presence of Teflon™ did not influence the sample and therefore the existing equipment would be suitable for sampling for PFAS.

## GROUNDWATER SAMPLING RESULTS

Since the completion of the pilot test, two sampling rounds were completed at the site using the existing equipment. In the figure below, PFAS and manganese concentrations are presented to illustrate contaminate distribution across the site. Results from the groundwater sampling indicate that there is PFAS contamination at the site, but not at sample locations that are expected to be clean based on existing head and contaminant data. There were no PFAS detected in the samples collected from the up-gradient sample locations and sample locations that are located across the Rockwood Brook/wetlands. These results are consistent with the results from the pilot study, confirming that it was suitable to use the existing sampling equipment with minimal risk of false PFAS detections.



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