

January 9, 2017

Richard Spiese  
Vermont Department of Environmental Conservation  
1 National Life Drive  
Montpelier, VT 05620

**Re: ChemFab (SMS# 2016-4630), POET Data Comparison**

This letter presents the results of a data quality audit performed on analytical data collected at Point of Entry Treatment (POET) systems associated with Bennington/North Bennington PFC contamination. These POET systems were installed at private water supply wells to mitigate direct consumption of PFCs.

**Background**

The news of PFC-contaminated municipal water wells in Hoosick Falls, New York in February 2016, prompted an investigation into the potential presence of PFCs in drinking water near the former Chemfab manufacturing property in North Bennington, Vermont. Chemfab produced Teflon-coatings for fabrics and operated in North Bennington from 1970 through 2000, when it was purchased by Saint-Gobain Performance Plastics (St. Gobain). The Vermont facility closed in 2002 and moved to New Hampshire.

After PFCs were confirmed in private water supply wells, POET systems were installed by St. Gobain at locations where PFCs were detected above screening criteria established by the Vermont Department of Health (VTDH). The POET systems use granulated activated carbon filters to remove PFCs prior to entering household use.

To ensure that homeowners are being protected from PFCs, POET system monitoring was performed by C.T. Male Associates (CTMA) of Latham, New York, on behalf of St. Gobain. Analytical results to date indicate that the POET systems are operating as intended.

Because POET sample analysis was performed at a different laboratory than the initial sampling conducted by Weston & Sampson on behalf of the Vermont Department of Conservation (VTDEC), a data audit was conducted at four of the POET sample locations. The purpose of the audit is to confirm that the POET systems are removing PFCs to below guidance levels.

**Sample Collection**

Drinking water supply samples were collected at POET system influent and effluent locations by both Weston & Sampson and CTMA personnel. Two carbon filters are part of the POET systems—CTMA collected samples from the influent and the effluent after the first carbon filter (system midpoint). Weston & Sampson collected samples from the influent, from effluent after the first carbon filter (system midpoint), and from effluent after the second carbon filter.

The water supply was purged for approximately 10 minutes prior to sampling to eliminate stagnant water in the distribution lines. The samples were collected in laboratory provided containers, placed on ice and shipped to the laboratory under standard chain-of-custody procedures. Samples collected by CTMA were shipped to Eurofins – Eaton Analytical (Eurofins), in South Bend, Indiana. Samples collected by Weston & Sampson were shipped to Northern Lakes Service, Inc. (NLS) in Crandon, Wisconsin.

**Results**

No PFC concentrations were detected at either the POET system midpoint or at the final POET system effluent in samples collected by CTMA or Weston & Sampson. This is consistent with ongoing sampling of the systems conducted by CTMA and reported to the VTDEC.

Influent samples of contaminated water were collected at each location by both CTMA and Weston & Sampson. These results were compared to evaluate the measure of mutual agreement among individual sample results

(precision). Precision is generally expressed as the reproducibility of the analytical result and is expressed by the relative percent difference (RPD), calculated as follows:

$$\frac{|(\text{sample concentration}) - (\text{duplicate concentration})|}{(\text{simple average of sample and duplicate concentration})} \times 100 = \text{RPD (\%)}$$

Sample analytical results, and the RPD for the influent sample pairs are presented in **Table 1**. Three of the four sample RPDs for PFOA were under 10%. Influent samples at Michaels Drive have an RPD of >90%, with the higher concentration reported in the first sample collected during the sampling period by CTMA.

### Discussion/Conclusions

Consistent with CTMA results, no concentrations of PFCs were reported at either the midpoint or effluent of the POET systems. The results of the POET audit report indicate that the systems are operating as expected and are adequately removing PFCs from drinking water.

PFC concentrations reported for samples collected by CTMA and by Weston & Sampson are similar (<26% RPD) and within the typical range of RPDs seen with duplicate samples collected throughout the investigation (generally <30%) with the exception of Michaels Drive. The influent sample RPD at this location was >90%. Some uncertainty is expected when collecting samples at different times and under potentially different household water usage. While the cause of this influent sample variability is unknown, no PFCs have been reported after treatment and the POET systems are operating as expected.

Please contact me directly by phone at (802) 244-5051 x6007 or by e-mail at [larosas@wseinc.com](mailto:larosas@wseinc.com) if you have any questions or require further information.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.



Steven LaRosa  
Senior Project Manager

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**TABLE 1**  
**POET SAMPLE RESULTS**  
**CHEMFAB (SMS# 2016-4630)**  
**BENNINGTON/NORTH BENNINGTON, VERMONT**

Location Address	Location	Sampler	PFOA	PFHpA	PFOS	PFOA RPD	PFHpA RPD
Asa way	Influent	Weston & Sampson	291	16.1	ND/<13	9%	1%
		CTMA	320	16	ND/<40		
	Midpoint	Weston & Sampson	ND/<6.7	ND/<3.3	ND/<13	--	--
		CTMA	ND/<20.0	ND/<10.0	ND/<40		
	Effluent	Weston & Sampson	ND/<6.7	ND/<3.3	ND/<13	--	--
	Susan Taylor Lane	Influent	Weston & Sampson	<b>780</b>	<b>28.7</b>	ND/<13	0%
CTMA			<b>780</b>	<b>22</b>	ND/<40		
Midpoint		Weston & Sampson	ND/<6.7	ND/<3.3	ND/<13	--	--
		CTMA	ND/<20.0	ND/<10.0	ND/<40		
Effluent		Weston & Sampson	ND/<6.7	ND/<3.3	ND/<13	--	--
Silk Road		Influent	Weston & Sampson	<b>177</b>	<b>9.15</b>	ND/<7.9	7%
	CTMA		<b>190</b>	ND/<10.0	ND/<40.0		
	Midpoint	Weston & Sampson	ND/<4.4	ND/<2.8	ND/<7.9	--	--
		CTMA	ND/<20.0	ND/<10.0	ND/<40.0		
	Effluent		ND/<4.4	ND/<2.8	ND/<7.9	--	--
	Michaels Drive	Influent	Weston & Sampson	<b>40.1</b>	<b>3.5</b>	ND/<3.8	93%
CTMA			<b>110</b>	ND/<10.0	ND/<40.0		
Midpoint		Weston & Sampson	ND/<2.3	ND/<1.0	ND/<3.8	--	--
		CTMA	ND/<20.0	ND/<10.0	ND/<40.0		
Effluent		Weston & Sampson	ND/<2.3	ND/<1.0	ND/<3.8	--	--