

High Volume Sampling Follow-up

Gravity High Volume Sampler

In following up on an e-mail from Richard Grace at AXYS, he pointed out that in going through the PUF portion of the Gravity samples from the Spokane River work last summer he noticed what appears to be contamination that has a silicon tubing signature. He pointed out that the co-elutions, PCB 44/47/65 and PCB 45/51, are associated with contamination from standard grade and to a lesser extent medical grade silicon tubing. He also mentioned that Greg Cavallo had run into this issue for compositing samplers that use silicon tubing in the peristaltic pumps. (See attached information from Cavallo).

Richard referred me to the five PUF fraction samples (not both fractions) and the lab blank that they ran on the Spokane River samples (one at the outlet of Lake Coeur d'Alene and the other below Nine Mile Dam) last August.

pg/sample	PCB 44/47/65 + PCB 45/51	Total PCB	Percentage
Sample #1	18,529	23,574	78.6%
Sample #2	15,282	43,465	35.2%
Sample #3	3,017	4,100	73.6%
Sample #4	13,322	18,215	73.1%
Sample #5	8,153	32,296	25.2%
Lab Blank	2.3	85	2.7%

I also followed up with Greg Cavallo and he provided some information related to a study on equipment rinsates blanks that shows the differences between standard silicon tubing and medical grade silicon tubing when used in a composite sampler.

pg/L	Total PCB	PCB 44	PCB 45
Standard	203	96	57
Medical Grade	69	7	2

Grace and Cavallo both recommended that whatever system that we plan to use for high volume sampling that we put the sampler components through laboratory "proofing" so we know if we will see equipment contamination.