

# Sampling Methodology Focus Group

June 27, 2014 Meeting Notes (revised)

**Attendees:**

Adriane Borgias, Ecology

Bud Leber, Kaiser

Arianne Fernandez, Ecology

Chris Page, Ruckleshaus (on phone)

Kris Holm, representing Coeur d'Alene (on phone)

Brandee Era-Miller, Ecology

David Dilks, LimnoTech

Cathy Whiting, LimnoTech

1. Review of action items from last meeting

- Bud Leber talked to AXYS. The liquid/liquid extraction on both the grab and CLAM samples was done by the same method using dichloromethane. There is a question if PCB is in the particulate fraction, can it be washed out? BL noted that visually the samples from the Kaiser study did not show suspended material. Brandee Era-Miller looked at the TSS data and said there was no statistical correlation with TSS in the results. Brandee Era-Miller had good reproducibility in the results, so this is curious. Will need to do a lab test to understand "why."
- Brandee Era-Miller looked at other solutions to address the volume question associated with the CLAM sampler. EAP has not studied the volume issue yet. A tipping dipper and bladder have been suggested as solutions to measuring accurate volume. The manufacturer supplied a photo of an example flow measuring system.

She shared the CLAM manufacturer's study about the concentration discrepancy between a 1 liter sample and the CLAM. The water sample had lower recoveries, possibly due to the fact that the chemicals adhere to the containers. So, unless a lab rinses EVERYTHING, then there could be loss of the analyte. This phenomenon was actually why the CLAM was invented in the first place. There was a discussion that a lab study is warranted with a range of concentrations.

- Arianne Fernandez and Ted Hamlin determined that the paddle meter would not work due to size difference.

*ACTION ITEMS*

- *Arianne Fernandez to submit 4 liter sample to lab for analysis.*
- *Arianne Fernandez to establish conference call with lab (Richard Grace, Brandee Era-Miller, Cathy Whiting, Bud Leber) and set up an experiment to test the question about concentration differences between grab and CLAM samples.*

## 2. Comments on new information since last meeting

David Dilks summarized the results of the Confidence Interval testing. There were problems with PCB-7 in some of the lab blanks and other PCBs in the samples (possibly from bottle contamination). The current data is good for identifying sources (possibly). Will not be able to quantify smaller sources.

It is expected that there will be higher concentrations of PCBs in the water in the summer. However, during part of the year (high flows) PCB concentrations will be too low to measure.

We have to consider what happens if half the data is “zeros” and half is not. In this case, it is not possible to do a mass balance. But we might be able to use the data qualitatively to identify sources.

Whatever sampling method is used, we need to collect data but it should answer questions about sources and PCBs.

David Dilks recommended that the QAPP objectives and SAP be modified to reflect the value of the information that can be obtained by the sampling efforts. Specifically, the low flow information and the seasonal variability.

The GRAVITY P2900 and CLAM studies should be added as addendums (to QAPP or SAP, let LimnoTech decide the best place).

The QAPP and SAP to be provided to Adriane Borgias for final review and signatures, which is needed prior to sampling starts. This needs to happen with enough time to address any questions which may arise.

Also Laboratory 2 and sampling contractor can be added to the documents.

Sampling is expected to start this summer. August 18<sup>th</sup> is the last date that this can be done.

### *ACTION ITEM*

*David Dilks to modify the objectives of the QAPP so that our study is able to meet the quality objectives. This includes an adaptive management component with further study in two areas:*

- *CLAM volume measurement and laboratory study to address concentration differential*
- *GRAVITY P2900 concurrent sampling Confident Testing. (See below)*

*Adriane Borgias to process signatures on QAPP and SAP when final is received from LimnoTech.*

3. Evaluation of alternative sampling methodology

- Comparison of detection limits, precision, and bias for PCB measurements
- Does alternative meet QAPP objectives?

GRAVITY provided information about their P2900 HVS system. It was determined that it would be worthwhile to do a confidence test on this system during the coming year. If the system works, then it could be an alternative. If it doesn't work, then we will need to revisit the sampling methodology question again. The Confidence testing should include:

- Test the sites for accessibility with the sampler
- Do side-by-side test with the grab samples
- At a minimum test two sites (Coeur d'Alene-upriver and Ninemile-downriver). If funding is available, test a site in between.
- If possible should do a replicate/triplicate analysis in order to establish reproducibility

Other questions for GRAVITY: what rig is used? Can it be set up on the bank? Is it implementable on the Spokane River.

*ACTION ITEMS*

*Adriane Borgias to ask Gravity if they have data showing reproducibility/bias associated with the P2900 HVS system.*

*Bud Leber to add the Confidence Testing item during contract negotiations.*

*David Dilks/Cathy Whiting to modify QAPP/SAP to accommodate adaptive management and evaluation of the P2900 HVS performance.*

4. Path forward discussion

- Name change for Focus Group to "Sampling Methodology" Focus Group (decision)
- QAPP revisions: David Dilks (see Action items)
- SAP revisions: Cathy Whiting (see Action items)
- Impacts to project schedule and budget?

There is enough in the budget to add a the P2900 study and CLAM experiment. ACE will be meeting Monday June 30 and discuss scope. Also on the ACE agenda is the Phase II for LimnoTech (field project management, training, data analysis) and identifying the second laboratory.

The field work needs to be integrated with Dale Norton's crew (Brandee Era-Miller is the contact point.)