



UTILITIES DIVISION

KEVIN R. COOKE, P.E., DIRECTOR
A DIVISION OF THE PUBLIC WORKS DEPARTMENT

November 12, 2015

Spokane River Regional Toxics Task Force
c/o Chris Page
Delivered via email to c.page@wsu.edu

Subject: Comment on supplemental documents to Spokane River August 2014 PCB sampling

In September 2015, supplemental documents were made available to the SRRTTF related to synoptic PCB sampling that was conducted in August 2014. Spokane County has closely reviewed these documents. We are providing the following comments and information as we believe they are important to share with the SRRTTF.

By way of overview, in July 2015, the SRRTTF approved a report summarizing a synoptic sampling event for PCBs in the Spokane River which occurred in August 2014. That report is entitled, "*Phase 2 Technical Activities Report: Identification of Potential Unmonitored Dry Weather Sources of PCBs to the Spokane River* (hereafter referred to as the Phase 2 Report)." Following approval of that Phase 2 Report, the following additional related documents and data were made available to SRRTTF members:

1. SRRTTF Phase 2 Data Review/Validation, dated August 11, 2015
2. 2014 Spokane River Synoptic Survey Data Usability Assessment, dated September 8, 2015
3. 2014 Spokane River Synoptic Survey Field Audit, dated September 2, 2015
4. PCB laboratory data for all August 2014 samples (river and stream, effluents, and blanks), including congener and homolog results

Based on our technical review of these documents, we offer the following comments and information:

1. General comments on the documents and data files:

- These documents provide important information that is relevant to the content of the Phase 2 Report. Distribution of these documents and PCB data files prior to finalization of the Final Phase 2 Report would have provided for a more meaningful review of the draft report by the members of the SRRTTF.

Request: Technical documents such as these should be provided to the SRRTTF for review and approval.

2. Comments Regarding: SRRTTF Phase 2 Data Review/Validation:

- This document references data files that include a summary of the quality assurance review results. The location of the files is given as a file path for a LimnoTech intranet drive that is not available for others to review. The data files that were provided for review do not appear to include any quality assurance review results.

Request: Please summarize and make these data files available with the quality assurance review results.

- The project Quality Assurance Project Plan (QAPP) specifies that trip blanks will be used to screen the analytical measurements performed by the contract laboratory. The project Sampling and Analysis Plan (SAP) states: *“If target analytes are found in the trip/transfer blanks above the criteria, sampling and handling procedures will be reevaluated and corrective actions taken.”* The specified criteria provided in the SAP is 127 pg/L. The trip blank collected on 8/12/14 had a total PCB concentration of 968 pg/L, which is significantly outside the criteria.

Request: The corrective actions taken and the impact of this result should be addressed in this document.

- The document states that conventional analyte data *“comply with QAPP data quality indicator criteria.”* This is inaccurate because the detection limit for TSS in the QAPP was 1 mg/L and the reported results were at a detection limit of <5 mg/L.

Request: Please correct the document to show this deviation from the QAPP.

3. Comments Regarding: 2014 Spokane River Synoptic Survey Data Usability Assessment

- The conclusion of this document states as follows:

“The usability of these data were confirmed by an ‘independent peer review panel’ during the Spokane River Toxics Workshop held in Spokane Valley on January 13th and 14th, 2015.”

This statement should be revised or deleted. The SRRTTF workshop in January 2015 included a review of draft results. During the workshop review, several key questions were raised regarding the quality of the data collected. The workshop did not include review of any final document. The review was likewise not an “independent peer review panel.” Workshop attendees were not told or made aware that their participation could ever be characterized as a peer review or that they were making a determination about the usability of data. The January 2015 workshop included a presentation and discussion of the results, but was not a review of a document or report.

Request: This statement regarding the peer review, which appears twice in the document, should be deleted because it is inaccurate.

- Related to Seasonal Variability data, the document states (on page 2), that “*Suitable data have been collected for two of the three flow periods, spring high flow and summer low flow.*”

This seems inaccurate. From the May 2014 seasonal sampling, the Confidence Testing Results report (draft July 2014) stated: “*Concentrations observed in trip blanks and laboratory blanks were at similar levels to those observed in field samples, making it difficult to distinguish an environmental signal from the noise in laboratory measurement.*” The May 2014 data have been discounted as not useful for this reason, yet in this recent Assessment document, the data are characterized as “*suitable.*”

Further, the Confidence Testing Results report said: “*PCB concentrations are expected to be significantly higher during the SRRTTF August (2014) sampling than they were during the May (2014) sampling, due to much lower river flows and consequently lower dilution of weather-independent external PCB sources*” and “*it is expected that the August (2014) sampling will see environmental concentrations that rise above the noise in laboratory measurement.*” However, this prediction of higher concentrations during low flow was proven to be erroneous during the August 2014 sampling. Average blank corrected total PCBs concentrations at the outlet of Lake Coeur d’Alene were lower in August 2014 (13 pg/L) than in May 2014 (23 pg/L). This is the only site sampled during both events. These data signal that there may be an error in the fundamental understanding of the system (*i.e.* that lower river flow results in higher concentrations).

Additionally, comparison of the average, blank corrected total PCBs from the May 2014 Mirabeau Park site (34 pg/L) to the August 2014 Barker Road site (18 pg/L) yields similar results: concentrations were lower during summer low flow.

Request: The Assessment document should be revised to include the fact that based on actual data:

- Average PCB concentrations collected in the same location during spring 2014 high flow sampling and summer 2014 low flow sampling were indistinguishable.
- Additional sampling is needed to characterize the seasonal variability of PCB concentrations in the Spokane River at each location.

4. Comments on 2014 Spokane River Synoptic Survey Field Audit, dated September 2, 2015

- No comments on the document at this time.

5. Comments on PCB data

- The data were uploaded to the SRRTTF website in August 2015, which is one year after the samples were collected and a month after the Phase 2 Report was finalized in July 2015.

Request: Laboratory results should be provided to the SRRTTF immediately after being received from the laboratory.

- Table 13 in the QAPP provides the definition of the data qualifiers used for this project. The B data qualifier (B flag) in the laboratory data files is inconsistent with the definition provided in the QAPP. The QAPP states that a B flag indicates that an analyte was found in a sample at a concentration less than 3 times the associated blank concentration, while the

laboratory B flag is an application of the blank correction method specified in Method 1668C.

Request: Please provide definitions of the data qualifiers used in the laboratory data files.

- In many instances, the total PCB values (uncorrected) reported in the laboratory data are different than the total PCB values (uncorrected) provided in the Phase 2 Report. This is due to the inclusion of the NJ flagged data in the total PCB values (uncorrected) reported in the Phase 2 Report data.

Request: Please provide a description of how total PCBs were calculated by the laboratory along with the laboratory data files.

- Because of the potential impact of lab and field blanks on the analytical results, the County believes that it is important for samples to be batched so all samples for a particular day, including blanks and replicates, are run at the same time and are subject to the same laboratory blank. Samples collected in August 2014 were batched so that trip blanks for a particular day were often run in different batches than the samples they were intended to control. Also, some replicates were run in different batches than the samples they were intended to control, and, therefore, were subject to different blank correction values.

Request: Laboratory analysis should be conducted by sample batches so that samples are tested along with their associated blanks and replicates.

In summary, Spokane County submits these comments with the objective of providing useful information to help improve the analysis of data collected during the August 2015 Spokane River sampling activities. Additionally, where our comments relate to analysis of the August 2014 data, we suggest that those documents be revised. We are hopeful that the above comments will be useful as the SRRTTF continues its important work. Please direct any questions on this letter to me.

Sincerely,



David Moss, P.E.
Water Reclamation Manager
Spokane County representative to the SRRTTF

CC: File