

## 2009 CAM Revisions Work Group

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#### Meeting Minutes from March 3, 2009

**Present: Don Muldoon, Liz Denly, Susan Chapnick, Nancy Rothman, Jack Miano, Mike LeBlanc, Dave Lubianez, Dallas Wait, Jim Occhialini, Kim Reid, Lisa Westerlind, Paul Fyfe, Chris Knight, Heather Beaudoin, Lori Herberich, Mark Casey, Gretchen Fodor, Mark Warren, Mike Erickson, Dave Dickinson, Jamie Stapleton**

- 1. Don Muldoon presented table for “2009 CAM Revisions Sub-Workgroup Assignments”**
  - Don believes working in sub-workgroups will facilitate completion of the revisions
  - Asked attendees to let Liz Denly know which Sub-Workgroups (i.e., Admin, Organic, Inorganic, and/or Air Phase) they would like to participate in
- 2. Significant Figures**
  - CAM convention will be 2 “significant figures” for Inorganics and Organics
  - Documents will clearly indicate this is a policy decision, not “significant” in the scientific or mathematical sense, for standardization and consistency for reporting of results
- 3. “Difficult” Analytes by 8260B**
  - Acetone, 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone, Dichlorodifluoromethane, Bromomethane, Chloromethane, and 1,4-Dioxane will be listed as potentially difficult analytes at the bottom of Table II A-1. 4 or 5 out of 5 labs surveyed identified these compounds as possible difficult analytes in LCS/LCSD recovery
  - Acceptance criteria for difficult analytes set at 40-160% to be consistent with CT RCP methods
- 4. Reactive (SX) Compounds**
  - SX footnotes will be eliminated from Table II A-2
  - Information about the SX compounds will be added to the Special Analytical Considerations section of the method
  - Consensus of group was that labs have not seen problems with “SX” compounds, Jim Occhialini (Alpha) indicated that his lab did a literature search and found that this was a very rare occurrence.
  - Workgroup consensus that option in Aqueous preservation table in Appendix II A-1 listed as “Reactive<sup>4</sup> volatile organics susceptible to acid hydrolysis, abiotic degradation or loss during storage” along with the footnotes related to this option should be removed, as they are confusing in field sampling planning and to data users. Don / DEP disagreed with the workgroup and indicated the Preservation option will remain in the method.
  - It was discussed at the meeting that the Preservation option that is remaining in the method is in direct conflict with Workgroup consensus as well as MassDEP Frequently Asked Questions #1 and 6 on the DEP’s web site which state the following:
    - a. Answer to Question #1: DEP does not consider any of the VOCs with an "SX" superscript in Table II A-2 “reactive compounds” and as such, acid preservation with HCl with cooling at 4 +/- 2 degrees C and a maximum holding time of 14

days will be considered to meet MCP sampling requirements for water samples analyzed for any of these analytes.

- b. Answer to Question #6: There is less than universal agreement on which of these identified "potentially reactive" compounds demonstrate significant losses during normal (14 day) storage after acid preservation with HCl when held at 4 +/- 2 degrees C. The one compound for which there is a consensus, 2-chlorovinyl ether (acid hydrolyzable), is not on any of the CAM VOC lists.

As a result, separate sample containers and preservation will not be required when sampling water for volatile organics identified as "potentially reactive" at this time."

#### 5. Analysis of 1,4-Dioxane by 8260B

- Volatile GC/MS method will be allowed to be used as a screen when performed using full scan
- To be added to the Special Analytical Considerations section of the method: Optional 8260B-SIM with heated purge & trap to meet Method 1 Standard may be acceptable depending on sample matrix. Analytical caution will be added that high chlorinated solvents in sample may cause trap saturation; therefore, options given in Appendix II B-3 of CAM 8270 method may be more appropriate.

#### 6. 8260C Requirements

- Reference method for CAM will be SW-846 Method 8260B since this is the current promulgated method
- Liz presented comparison between 8260B and 8260C. Based on consensus, the Workgroup accepted the following changes/additional QC Requirements for CAM to be changed in Table II A-1:
  - Initial Demonstration of Proficiency: Insert as QC Parameter in Table II A-1 for this and all CAM methods
  - Initial Calibration: Adopt 8260C with amended requirement that the response factors from the lowest standard and average response factors across Initial Calibration must meet minimum RFs as listed in Table 4 of 8260C.
  - Continuing calibrations: Leave corrective action as it currently exists in WSC-CAM-II A (i.e., corrective action if > 10% of compounds exceed criteria) and not adopt the more lenient 8260C criteria.
  - Initial Calibration Verification: Add as a QC Parameter in Table II A-1 with criteria from 8260C (ICV is a second source standard)
  - LCS/LCSD and MS/MSDs: Allow option to use same or second source spikes and not adopt the 8260C requirement that spikes be the same source as ICAL
  - Quantitation: if %RSD > 20% in ICAL, linear regression or quadratic will be required

#### 7. Specific CAM Revisions: 8270

- Reference method for CAM will be SW-846 Method 8270D since this is the current promulgated method
- Nancy Rothman presented comparison between 8270C and 8270D. Based on consensus, the Workgroup accepted the following QC requirements for CAM to be changed in Table II B-1:
  - Initial Demonstration of Proficiency: Insert as QC Parameter in Table II B-1

- Table II B-1 Format: Adopt format and discussions about QC from 8260B CAM (e.g., ICAL bullet requiring curve to be forced through zero will be eliminated, etc.)
- Tune Criteria: Keep 8270C Tune Criteria and add Table 3 of Method 8270C as an appendix to CAM.. Peak tailing for Pentachlorophenol and Benzidine will be updated to 8270D requirement (tailing factor < 2)
- Initial Calibration: Adopt 8270D with amended requirement that the response factors from the lowest standard and average response factors across Initial Calibration must meet minimum RFs as listed in Table 4 of 8270D. Eliminate different calibration procedures for Full Scan and SIM
- Continuing calibrations: Adopt 8270D; however, corrective action requirement in 8270D of “if > 20% exceed criteria” will be amended to include “or if >15% of analytes from a particular class (base-neutral or acid) fall outside the acceptance criteria, corrective action must occur”
- Initial Calibration Verification: Add as a QC Parameter in Table II B-1 with criteria from 8270D (ICV is a second source standard).
- LCS/LCSD and MS/MSDs: Allow option to use the same or second source spikes and not adopt the 8270D requirement that spikes be the same source as ICAL. Wording will clarify that spikes must be prepared in a water-miscible solvent (i.e., methanol or acetone).
- Quantitation: if %RSD > 20% in ICAL, that linear regression or quadratic will be required.
- Analytical note about 1,4-Dioxane analysis will be added to the Special Analytical Considerations section of CAM (similar to Note in 8260B CAM)

#### 8. Miscellaneous Issues

- Liz showed Workgroup current working version of Table II A-1 from 8260B CAM, which includes “Rejection Criteria per WSC-07-350” as requested by Workgroup in last meeting. The word “Required” was added to Corrective Actions and Analytical Response columns, where appropriate.
- Don will post draft CAM methods on BWSC web-site as they become available
- Workgroup asked to get others in office/lab involved in review of the Draft Methods before they’re finalized

9. **Next meeting** will be held at MassDEP Central Office, 627 Main Street, Worcester, MA on April 14, 2009 beginning at 9:15 AM.

#### 10. Summary of Action Items:

1. Laboratory members within the Workgroup will e-mail Liz within the next week about which Sub-Workgroup they would like to participate in
2. Nancy will investigate 8270D Tune criteria issues and report back to Workgroup.
3. Revised versions of the CAM 8260B and 8270D methods will be posted on the CAM Revisions web page within the next few weeks. Workgroup will receive e-mail when methods are posted and should review methods and get comments to Liz Denly.

Thank you all for participating in this important Workgroup to assist DEP in continuing improvement and consistency of the quality of chemical data to support MCP decisions.