

**TNI Chemistry FoPT Subcommittee
Meeting Summary
March 9, 2010**

1. Roll call and Meeting Minutes:

Co-Chair Carl Kircher called the Chemistry FoPT Subcommittee to order on March 9, 2010, at 12:15pm EST. Attendance is recorded in Attachment A. There were 8 members present on the call today.

The minutes from the February 23, 2010 meeting were reviewed for approval. The first part of Chuck's comment in the third bullet on page 2 should be deleted, but the question of which standard the PT Provider's should be using should be left in. Jeff motioned to accept the minutes with the noted change and Eric seconded the motion. The motion was unanimously approved and these minutes will be posted to the TNI website.

2. NPW FoPT Table

The subcommittee discussed the cover letter Carl provided for the NPW FoPT table. It was suggested that the letter should note that some analytes failed some of the criteria that is included in our SOP. This should be added to the cover letter before it goes to the PT Board. The failures can be grouped into three categories – $n < 20$, failing criteria for regression analysis and failing criteria for correlation coefficients.

Carl will update the cover letter and make sure it goes out to the PT Board by Monday, 3-15-10.

The subcommittee was OK with the cover letter pending the additions discussed above. Carl will send a final DRAFT to the subcommittee within the next day and request comments by next Monday morning. He will then forward the final letter and table to the PT Board on Monday.

(Addition to minutes – 3/9/10: The new language can be found in the revised cover letter Carl provided after the meeting (Attachment B.))

3. Solid and Chemical Waste FoPT Table

The present SCM FoPT table implemented in 2007 contains several types of acceptance limits based on the then TNI SOP for calculating acceptance limits. These acceptance limits include regression equations (a, b, c & d factors), study mean with regression equations (c & d factors) and study mean plus or minus

three study standard deviations. The different types of acceptance limits are based on the fact that the matrix used by each provider is not the same. Matrices used by providers for the same analyte can have significantly different recoveries of the analyte. Determinations from the 2007 evaluations by this subcommittee showed that the effect of the matrix was found in most all analyte categories including metals, inorganics and extractable organics but that the matrix effect was not found in the volatile organic category. Overall based on this information the 2007 SCM table was formulated. Our task as the TNI FoPT Subcommittee presently is to add the experimental analytes to the present SCM accreditation table. The evaluations presented are consistent with the formulation of the 2007 accreditation table. Therefore, to perform this task as assigned by the TNI PT Board all metals, inorganics and extractable organic experimental analytes will be presented as study mean with regression equation (c & d factors) and all volatiles organics experimental analytes will be presented as regression equation (a, b, c & d factors) where practical.

The table includes all the data that was received that met the SOP requirements. In some cases all the data for an analyte is from one provider. Carl asked if this could be a problem for the other PT Providers? Chuck noted that you are not going to be able to add any analytes to the table that don't behave like the analytes that are currently on the table. He also commented that when this was looked at before, there was a conclusion that you need to have a single source for soil that all PT Providers would use.

Stephen Arpie expressed the following concern:

“The use of "C and D" cofactors are inappropriate by themselves. When N is greater than 20, outliers can be created, but are allowed inside the limits of C, and D. We can not have a condition where one statistical procedure considers a result a fail evaluation and another considers it an acceptable evaluation.

The only technique that is required is in EL-V3-2009.PDF 10.2.5, and in NELAC 2003. Using only "C and D" is not required and thus, due to the conflict should and must be dropped. It does not represent a best practice approach but the weakest practice. Additionally, gravimetric or values set by the manufacturer should be used as they are in line with ISO and IUPAC, both of which provide and require traceability and expressions of uncertainty for the assigned value. Using "C and D" or study means do not provide any traceability or uncertainty.”

Stephen's concern was discussed, but the other participating members felt it was not an issue.

INORGANIC GENERAL CHEMISTRY

Bromide

It would be expected that the soil limits would be wider than the water. Bromide passes the fixed limit tests. Chuck noted that Bromide PT levels are higher than what labs typically receive in real world samples. They have difficulty passing the PT sample due to interferences. Chloride has to be higher if the Bromide is higher. This impacts labs using more manual techniques for analysis. Not a real problem if using IC.

Jeff suggested 10-100 mg/kg for Bromide and then looking at at least 200 – 2000 mg/kg for Chloride. Chuck would be concerned about fixed limits because there is no current data at the lower end of the suggested range. He is concerned the limits would be tighter for soil than for water at the lower end. He would prefer to see a regression equation. At 10 mg/kg it would be 63-137%, and at 100 mg/kg it is 73-127%. Jeff noted that the recovery data shows 76 - 98%.

A motion was made by Jeff: Concentration Range: 10 to 100 mg/kg. Limits: Linear regression, adopt c & d factor as presented in the table distributed by Jeff on 3-3-10. It was seconded by Eric. Voting: 7 – Yes 1 – No. The motion passed.

Chloride

There is lots of data between 200 – 450 mg/kg, but there is not much data at higher levels. The regression at 2000 mg/kg puts the limits at 83-117%. Chuck commented to use c & d factors before outlier removal. Dan commented that if they are called outliers – why would you now use them? Jeff responded that we should consider using it because it is the only point at the higher range. Carl asked if 200 - 1000 mg/kg should be considered instead.

Chuck made a motion: Concentration range - 200 -1000 mg/kg. Limits - linear regression equation before outlier removal with a c factor of 0.0892 and a d factor of 5.3941. The motion was seconded by Jeff.

Vote: Voting: 7 – Yes 1 – No. The motion passed.

Flouride

Passes criteria for c & d. Looks wider than WP. Present concentration range is 25 – 500 mg/kg. Eric noted that he preferred the current concentration range. Using the regression equation, at 22 mg/kg it is 22-178% and at 500 mg/kg it is 45-155%.

A motion was made by Chuck: Concentration - 25-500mg/kg Limits – linear regression equation after outlier removal with the c& d factors as presented in the table distributed by Jeff on 3-3-10. The motion was seconded by Eric.

Vote: Voting: 7 – Yes 1 – No. The motion passed.

Nitrate as N

The study range was 36 - 314 mg/kg. The present concentration range is 25 – 500 mg/kg. Eric suggested keeping the current concentration range.

Chuck noted that the limits in the table are tighter than what Wibby usually sees in their studies. The limits are a little wider before removal of the outliers – at 25 mg/kg the limits would be about the same with or without the outliers.

A motion was made by Chuck: Concentration – 25 – 500 mg/kg. Limits – linear regression equation before outlier removal with a c factor of 0.0676 and a d factor of 2.4605. The motion was seconded by Jeff.

Vote: Voting: 7 – Yes 1 – No. The motion passed.

4. New Items

- None.

5. Action Items

- Action items were reviewed. Any changes were made directly to the table.

6. Next Meeting

The next meeting of the Chemistry FoPT Subcommittee will be March 16, 2010, at 12PM EST. The subcommittee will continue work on the SCW FoPT Table.

Action Items are included in Attachment C and Attachment D includes a listing of reminders.

The meeting ended at 1:28 pm EST. (Motion – Jeff, Second- Dan. Unanimously approved.)

Attachment A

**Participants
TNI
Chemistry FoPT Subcommittee**

Members	Affiliation	Contact Information
Carl Kircher, Co-Chair Present	Florida DOH	904-791-1574 carl_kircher@doh.state.fl.us
Brian Boling, Co-Chair Absent	Oregon DEQ	Boling.Brian@deq.state.or.us
Amy Doupe Absent	Lancaster Laboratories, Inc.	717-656-2300 x1812 aldoupe@lancasterlabs.com
Jeff Lowry Present	ERA	303-431-8454 jlowry@eraqc.com
Chuck Wibby Present	Wibby Environmental	303-940 -0033 cwibby@wibby.com
Eric Smith Present	TestAmerica	615-726-0177 x1238 eric.smith@testamericainc.com
Dan Tholen Absent	A2LA	231-929-1721 Tholen.dan@gmail.com
Stephen Arpie Present	Absolute Standards, Inc.	203-281-2917 stephenarpie@mac.com
Dan Dickinson Present	New York, DOH	518-485-5570 dmd15@health.state.ny.us
Stacey Fry Present	E.S. BABCOCK & Sons, Inc.	951-653-3351 x238 sfry@babcocklabs.com
Jim Present		860-947-2121 mousejr@nu.com
Ilona Taunton, Program Administrator Present	TNI	828-712-9242 tauntoni@msn.com

Attachment B

(Addition to the Minutes, 3/9/10 – Updated Cover letter for NPW FoPT Table)

Dear PT Board Members:

The Chemistry FoPT Subcommittee is pleased to present for your approval the attached Table for Non-Potable Water (NPW) matrix proficiency test (PT) samples for the NELAP Program. This Table principally fulfills the review of available PT data and moving all the experimental NPW FoPT's to this Table. The Table also adds some FoPT's for analytes that are analyzed as both Volatile Organics and Extractable Organics, and for analytes that are on the FoPT Tables for other matrices but not yet addressed in the NPW Table. The Table is color-coded to denote the additions made, revisions made, and the transitioned experimental analytes. As per the directive from the PT Board, most of the current accreditation FoPT's have not yet been considered to determine whether changes are needed; these analytes will be considered after the Experimental SCM FoPT's are reviewed and moved to that respective FoPT accreditation table.

This Table was approved unanimously by the Subcommittee Members in attendance at our teleconference on February 23, 2010. Since it is March now and the Table should be ratified by the NELAP Board, we have a proposed effective date of October 1, 2010 for this Table.

We invite your attention to the groupings of analytes in carefully described Headers and to the Footnotes at the bottom of the Table. The Subcommittee attempted to list the analytes in the groupings where defensible laboratory data on PT analysis exist. For example, Naphthalene and 1,2,4-Trichlorobenzene had satisfactory PT data to support listing in both the Purge-and-Trap Volatile Organics group and in the Base-Neutral Extractable Organics group. However, the available PT data did not support a recommendation for adding Hexachloroethane and Hexachlorocyclopentadiene to the Purge-and-Trap Volatile Organics group, even though many accredited laboratories analyze these analytes by Volatile Organics and Extractable Organics test methods. Similarly, our review of PT data did not support adding Hexachlorobenzene to the Organochlorine Pesticides list. Dinoseb (2-sec-Butyl-4,6-dinitrophenol) is often analyzed as an Acid Extractable analyte, but the available PT data did not support adding this analyte to the FoPT Table under this grouping. Thus, this analyte remains listed only in the Herbicides group. Conversely, the available PT data could not support recommending 4-Nitrophenol as a FoPT in the Herbicides group, and this analyte remains only in the Acid Extractables group. However, the Subcommittee can recommend Pentachlorophenol as both an Acid Extractable FoPT and a Herbicides FoPT. The NELAP Board should consider this analysis when respective Accrediting Bodies advise their pending and accredited laboratories on the proficiency test samples required for obtaining and maintaining NELAP accreditation for these analytes.

The Table also recommends FoPTs at two concentration ranges for the polynuclear aromatic hydrocarbons, to accommodate laboratory analyses by HPLC and GC/MS selected ion monitoring mode, which are usually more sensitive than the GC/FID and GC/MS full scan methods. Nitrobenzene, 2,4-Dinitrotoluene, and 2,6-Dinitrotoluene are also listed with the Nitroaromatics and Nitramines FoPTs, to accommodate PT analyses of these analytes with the other Explosives.

The Footnotes are key to providing clarification on the use of PTs in several critical areas. In particular, the FoPT listings for O&G (HEM) and TPH (SGT-HEM) are not to be confused with the FoPT listings for DRO and GRO, and visa versa. The Subcommittee has addressed a previous issue on Turbidity PTs by including in the footnotes that the PT acceptance limits are derived based on Formazin in the formulation. The Volatile Residue FoPT is meant to be applied to a whole-sample basis (i.e., Volatile Total Residue) and is not meant to be applicable to Volatile Suspended Solids only.

The Subcommittee members did recommend inclusion of FoPT's into the Table despite non-fulfillment of all the criteria in the current SOP for establishing acceptance limits. This first grouping of analytes did not meet current NELAC Standards for having at least 20 laboratory participants for at least 10 PT studies analysed to establish the acceptance limits. However, the FoPT's are being presented to the PT Board

because there are not as many laboratory participants in these environmental analyses so as to obtain 20 participants, these FoPT's are in categories where only 60% of the analytes would be spiked in nonzero amounts, and the available PT data are only within the last 2 years when the Experimental FoPT's were first posted at NELAC. These analytes are Azinphos Methyl, Diazinon, Malathion, Parathion, Methyl Parathion, Ethion, 4-Am-26-DNT, 2-Am-46-DNT, HMX, Nitrobenzene (low-level), 2-Nitrotoluene, 3-Nitrotoluene, 4-Nitrotoluene, 13-Dinitrobenzene, 24-Dinitrotoluene (low-level), 26-Dintrotoluene (low-level), Tetryl, Disulfoton, Chlorpyrifos, RDX, 135-Trinitrobenzene, and 246-Trinitrotoluene.

The next grouping of analytes failed the SOP criteria of, for recommending regression equations as acceptance criteria, the correlation coefficient of standard deviation vs. Assigned Value greater than 0.75. Implementation of the SOP procedures to exclude outliers and data points greater than 2 (then 1) standard errors from the regression equation did improve the correlation coefficient in just about all cases but not enough to meet the SOP criterion. Nevertheless, the Subcommittee is recommending these FoPTs to be consistent with acceptance limits currently listed for other Inorganic, Extractable Organics, and Pesticides analytes. These analytes are Color, Volatile Residue, Total Organic Halides, Endrin Ketone, Azinphos Methyl, Diazinon, Malathion, Anthracene (low-level), Benz(a)anthracene (low-level), Dibenz(ah)anthracene, 4-Am-26-DNT, HMX, Nitrobenzene (low-level), 2-Nitrotoluene, 3-Nitrotoluene, 13-Dinitrobenzene, 24-Dinitrotoluene (low-level), 26-Dintrotoluene (low-level), Tetryl, Disulfoton, Chlorpyrifos, 135-Trinitrobenzene, and 246-Trinitrotoluene.

In addition, Tetryl also failed the SOP criteria for the correlation coefficient of Mean versus Assigned Value greater than 0.90. This analyte does have analytical stability issues, but the Subcommittee is recommending this FoPT so as to complete the target analyte list of Nitroaromatics and Nitramines analytes typically analyzed by EPA 8330.

Please feel free to contact me by e-mail or telephone at 904-791-1574 if you have any questions about the proposed NPW FoPT Table.

Respectfully submitted,
Carl Kircher
CoChair, Chemistry FoPT Subcommittee

Attachment C

Action Items – Chemistry FoPT Subcommittee

	Action Item	Who	Expected Completion	Actual Completion
13.	Prepare letter to ABs to find out their needs on analytes that may be under consideration for deletion. <i>(3/24/09 – It was determined that these tables are used by more than just ABs. This needs to be reconsidered.)</i>	TBD	TBD	
22.	Prepare for upcoming meetings by reviewing evaluation files that Jeff will send every 2 weeks.	All	Ongoing	
46	Re-evaluate experimental volatile halocarbons for fixed limits when the rest of the volatile halocarbons are evaluated for an NPW table update.	All	On-going	
52	Send Draft Cover letter and final FoPT table to subcommittee members for comments prior to distribution to PT Board.	Carl	3/3/10	Complete
53	Send Final DRAFT cover letter to subcommittee for any additional comments.	Carl	3/10/10	Complete
54	Forward Final cover letter and NPW FoPT Table to PT Board for approval.	Carl	3/15/10	

Attachment D

Backburner / Reminders – Chemistry FoPT Subcommittee

	Item	Meeting Reference	Comments
1	Review summary data to see if it supports a change in the acceptance criteria for DW analytes (For example, VOA, 30% instead of 20%). If data is supportive, Jeff Lowry will approach ELAB.	10-30-08	<p>3/10/09 - Jeff has approached ELAB. They would be happy to put it in a work group – and pass it along with a letter to EPA. We need to provide them with the data.</p> <p>2/23/10: Jeff will forward the VOA data. Jeff noted that the data supports the tighter limits. He will provide the information to ELAB and they will decide whether to approach EPA.</p>
3	Consider changing the lower limit for Vanadium on WP to 50 ug/L.	6-30-09	
4	Consider nomenclature differences between the analyte codes and the FoPT tables.	2-23-10	
5			