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# ITLA

*The Newsletter of  
Independent Testing  
Laboratories Association  
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## 2004-2005 ITLA Officers

### **President**

Jim Occhialini  
508/898-9220  
jocchialini@alphalab.com

### **Vice President**

Peter Kane  
508-822-9300

### **Secretary**

Susan Sylvester  
603/436-2001

### **Treasurer**

Kevin Braga  
401/461-7181

## Message from the President

*By Jim Occhialini*

Greetings fellow ITLA members. Looking forward to spring? Well it's ITLA Annual Meeting time and that means that spring must be right around the corner (we hope).

The Annual Meeting also means that it's election time again. We have two positions on our Executive Board to fill, Secretary and Treasurer, and I am pleased to announce that we have a pair

of distinguished candidates ready to step in. The candidates are:

**Secretary** - Dan Falcone  
Severn Trent Laboratories  
**Treasurer** - Steve Hartman  
Severn Trent Laboratories

ITLA is grateful to STL for their contribution to our organization. At this time I also want to acknowledge our current office holders, Sue Sylvester, Secretary and Kevin Braga, Treasurer. Their performance of their duties has been exemplary, and they deserve all of our thanks for a job well done. Please tell them so when you see them at the meeting. Many of the advances our association has made would not have been possible without them.

We have a very informative meeting coming up on March 9<sup>th</sup>. Our featured speaker is Jeffrey Curran, Supervising Environmental Laboratory Consultant with the Connecticut Department of Public Health. Connecticut has formed a Data Quality Work group not unlike

the group that formed in Massachusetts. Mr. Curran will be speaking about the implementation and status of the data quality enhancement policy that they have been diligently working on. Also speaking at our next meeting will be Mr. Sergi Leikin of P S Analytical. Mr. Leikin will be speaking about his company's new line of products for mercury analysis using Methods 1631 and 245.7 as well as the speciation of mercury, arsenic and selenium. These topics have been receiving a lot of press recently, and Mr. Leikin's presentation will be most informative.

Who says there is no free lunch? The Annual Meeting will include a luncheon, and what's a luncheon without a luncheon speaker. Mr. Gene Benson will speak to the group about Alternatives for Community and Environment (ACE), an environmental justice non-profit organization. Mr. Benson was formerly Associate General Counsel with the MWRA and

## **Quarterly Meeting**

Wednesday, March 9, 2005, Crown Plaza, Worcester, MA

**Feature Presentation:** *CT Data Quality Improvement Program by Jeff Curran, See page 5 for agenda*

has been involved with environmental programs his entire career.

So, I hope to see you all in Worcester on the 9<sup>th</sup>. It's your civic duty to come and vote for the new candidates and thank our outgoing Board Members for their efforts. As always, if anyone has any issues they would like to have addressed or ways in which the ITLA can be more effective, please do not hesitate to contact me ([jocchialini@alphalab.com](mailto:jocchialini@alphalab.com) / (508) 898-9220). We have a great meeting planned, and I look forward to seeing you all.

## **MRWA Items**

*By Mike Delaney*

[mike.delaney@mwra.state.ma.us](mailto:mike.delaney@mwra.state.ma.us)

### **MWRA Training Session Sponsored by ITLA.**

MWRA is working on a training session for labs and consultants who work for industries with MWRA sewer use permits. The MWRA pretreatment program, called Toxic Reduction & Control (TRAC) issues permits to industries that discharge into the MWRA sewer system. Many of these permits require self-monitoring by the industries using certified laboratories and NPDES-approved methods. We are planning to hold the training this spring at the Deer Island Treatment Plant and to include a tour of the plant or the MWRA Central Laboratory as part of the training. The training will cover the sampling, testing, and reporting requirements of the TRAC program. Notification of the training data will be provided by ITLA.

### **MWRA to Switch to Ozone for Water Disinfection.**

This summer the Walnut Hill Water Treatment Plant in Marlboro will come on line to provide state-of-the-art treatment to the drinking water for 41 communities in Eastern Massachusetts served by the MWRA. The plant is currently undergoing extensive performance testing. When completed the Marlboro plant will use ozonation and chloramination to treat up to 270 million gallons

of water daily (up to 405 million gallons on peak day). This treatment will improve drinking water quality and strengthen the region's ability to comply with the Safe Drinking Water Acts. These changes, along with other improvements, mean that MWRA will be able to drastically reduce the amount of chlorine used in the water treatment process.

### **MWRA Submits NPDES Permit Renewal Application for the Deer Island Treatment Plant.**

The ocean outfall at the Deer Island Treatment Plant went on line in August 2000. This summer the 5-year permit expires, so MWRA has submitted a renewal application. This was an opportunity to summarize the successful performance of the treatment plant and the ocean outfall, the extensive Massachusetts Bay monitoring program, and the lack of any significant impact on the Bay. All re-ports submitted to DEP and EPA under this permit are available on the [www.mwra.com](http://www.mwra.com) web page.

### **TRAC "eSMART"**

We continue to receive laboratory data electronically using the web-based "e-SMART" program. Labs access e-SMART using a PIN provided by MWRA. The program accepts either data files in a specific format, or on-line data entry. Chains of custody are scanned and submitted as PDF files. So far, over 20 labs are using e-SMART. To find out more about e-SMART contact Alice Chang at 617-305-5621 or [Alice.Chang@mwra.state.ma.us](mailto:Alice.Chang@mwra.state.ma.us).

Labs using e-SMART are reminded of the following: If the chain of custody form is missing, or is missing vital information, including the permit number, the sample location number, or the effluent flow information, TRAC will return the report for correction and resubmission.

### **e-SMART File Format Specification**

To better assist labs that choose to use a LIMS system to submit data, TRAC modified the e-SMART File Format Specification that laboratories can access using the e-SMART Help function. The specifications include: a data file

overview, formatting instructions, a sample file, instructions for checking the file format, and a dictionary of MWRA test codes and components.

### Visit our web page for more information

Check us out at [www.mwra.com](http://www.mwra.com). We have a wealth of information for both the public and for experts on our water and wastewater activities. This includes monthly updates on drinking water quality testing, information on lead, our most recent Consumer Confidence Report, and many technical reports associated with the Deer Island Treatment Plant and our extensive Harbor and Outfall Monitoring program.

## Regulatory Update

By Bob Bentley, Regulatory Affairs Chair

### Perchlorate

The Drinking Water Program of DEP submitted a recommendation to the Commissioner for a new MCL for perchlorate in November. This was before the NRC study came out which recommended a total body burden not to exceed 0.7 ug per kg of body weight per day. Since this came out, DEP has stepped back and is re-thinking their MCL. It is our understanding that there will be meetings in the near future to determine the appropriate level. We hope to have more information on this subject at our Annual Meeting.

### Coliform testing

The Laboratory Certification Office continues to move ahead with changes to the confirmation procedures for positive membrane filter tests. It was the intent of the LCO to codify these changes. ITLA recommended against this action since it would be difficult and time consuming to make regulatory changes once this is implemented. We also offered to host training sessions to explain the changes to the microbiological community and public water suppliers. This course seemed to be acceptable to the LCO. For more information on this, please contact me at [bob@h2otest.net](mailto:bob@h2otest.net).

## Pressurized Solvent Extractions

By Rolf Schlake from Applied Separation

US EPA method 3545 and 3545a use pressurized fluid extraction (pfe) to extract PCBs and PAHs from soil. Known also as accelerated solvent extraction (ase) and pressurized solvent extraction (pse), pressurized fluid extraction replaces time-consuming soxhlet extractions. Extractions that took 4 to 8 hours can now be done in 15 minutes and using 85% less solvent.

The principle of PSE is that extraction efficiency is improved with increasing temperature. (Hot water dissolves quicker than cold water.) However as shown in figure #1, if temperature is increased from  $T_1$  to  $T_2$ , the extraction solvent passes through its boiling point, turns from liquid into gas with the extraction efficiency dropping to zero. Obviously a gas cannot dissolve analytes. This is the limitation of soxhlet extraction. In PSE, liquidity, however, is maintained by increasing the pressure from  $P_1$  to  $P_2$ . The efficiency soars reducing extraction times by 25 to 30 fold.

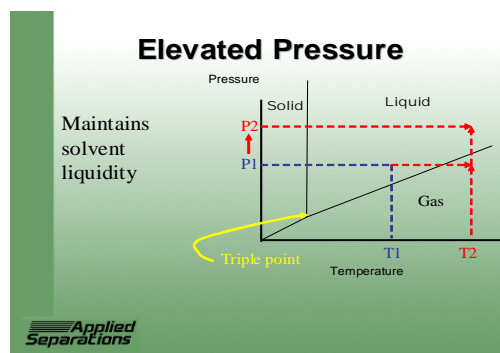


Figure #1

There are two instrument designs for doing pfe: serial and parallel. In serial extractions one sample is processed followed by the next, & the next, just like a rotating auto-sampler. In the more efficient parallel design, 6 samples are processed simultaneously leading to greater sample throughput. As shown in figure #2, assuming a 15 minute extraction, 192 samples can be extracted in an 8 hour work day by the Applied Separations *fastPSE*, compared to only 32 by the older serial system.

# Regulatory News

Provided by Jerry Parr, Editor of Calibrate

## Version 3 of the DOD Quality Systems Manual

This draft document incorporates recent changes to the NELAC standard to align the standard with ISO 17025. The redline/strikeout feature is used to highlight the changes made to the previous version of the QSM. Version 3 will become final once formal concurrence is received from the DoD Components. [http://www.navylabs.navy.mil/archive/dodv3\\_draft.pdf](http://www.navylabs.navy.mil/archive/dodv3_draft.pdf)

**EPA Establishes Limit for Perchlorate** - EPA has established an official reference dose (RfD) of 0.0007 mg/kg/day of perchlorate. This level is consistent with the recommended reference dose included in the National Academy of Science's Jan. 2005 report. <http://www.epa.gov/fedfac/documents/perchlorate.htm>

**New Data on Proposed Water Methods Rule** - On 4/6/04 EPA proposed to approve a number of new analytical methods for measuring pollutants in waste water and drinking water, and proposed to withdraw approval of Syngenta Method AG-625 for determination of atrazine by immunoassay. EPA has announced the availability of new data regarding these changes, and updates to three proposed methods. (2/16/05; 70 FR 7909)

## Two New SW-846 Methods for Cyanide Published

Method 9015, *Metal Cyanide Complexes by Anion Exchange Chromatography and UV Detection*, measures individual anionic metal cyanide complexes of iron, cobalt, silver, gold, copper, and nickel. There is no derivatization and little sample preparation. Method 9013A, *Cyanide Extraction Procedure for Solids and Oils*, is a procedure for extracting soluble and insoluble cyanides from solids and oil wastes prior to analysis using aqueous-based determinative methods. <http://www.epa.gov/epaoswer/hazwaste/test/new-meth.htm>

## Sample Throughput

Technique	Extraction time (hours)	Simultaneous Extractions	Sample Ext. in 8 hours
Soxhlet	4	1	2
Serial	0.25	1	32
Parallel	0.25	6	192

Figure #2

Because of their numerous moving parts, serial systems are also prone to leak more and have greater maintenance downtime.

Applied Separations described the *fastPSE*, figure #3, for doing accelerated solvent extraction. It is a fully automated instrument, processing 6 samples simultaneously. Methods can be stored on board the instrument or on an optional computer.



Figure #3

The operation is very straightforward:

- Load six sample vessels (with soil samples in the case of EPA 3545(a).)
- Place them into the instrument (The new vessel seals the vessels so you don't need to hand tighten them.)
- Put the collection rack in place.
- Select the method, push the START button
- Return in 15 min. for 6 completed extracts.

The company also has a smaller instrument, the *onePSE* that employs accelerated solvent technology but processes a single sample.

For a copy of EPA method 3545 and 3545a and more information about the *fastPSE* and the *onePSE*, visit the Applied Separations website at [www.appliedseparations.com](http://www.appliedseparations.com).

**March 9, 2005**

ITLA Annual Meeting  
Crown Plaza, Worcester, MA  
8:30 a.m. - 3:00 p.m.

**May 4, 2005**

ITLA Executive Board Meeting  
DoubleTree Suites, Waltham, MA  
1:00 p.m. - 4:00 p.m.

**May 11, 2005**

Deadline for Newsletter Submissions

**June 1, 2005**

ITLA Quarterly Meeting  
Radisson Inn, Milford, MA  
8:30 a.m. - 12:00 p.m.

**August 3, 2005**

ITLA Executive Board Meeting  
DoubleTree Suites, Waltham, MA  
1:00 p.m. - 4:00 p.m.

**August 10, 2005**

Deadline for Newsletter Submissions

**September 7, 2005**

ITLA Quarterly Meeting  
Taunton, MA  
8:30 a.m. - 12:00 p.m.

**November 2, 2005**

ITLA Executive Board Meeting,  
Doubletree Guest Suites, Waltham, MA  
1:00-4:00 p.m.

**November 9, 2005**

Deadline for Newsletter submissions

**December 7, 2005**

ITLA Quarterly Meeting,  
TBD  
8:30 a.m. - 12:00 p.m.

## *ITLA Annual Meeting*

**Wednesday, March 9, 2005**

**Crown Plaza,  
Worcester, MA**

**8:30 a.m. Registration**

**9:00 a.m. Committee Reports**

Secretary  
Technical  
Newsletter  
Lab Advisory  
Regulatory  
Treasurer  
Elections  
By-laws  
Ethics  
Membership

**9:30 a.m. Regulatory/Lab Advisory Committee Report**

**9:50 a.m. Break**

**10:00 a.m. Election**

**10:15 a.m. Vendor Presentation**

*Sergi Leikin of P S Analytical*

- Advances in mercury analysis using Methods 1631 and 245.7
- Speciation of mercury, arsenic & selenium

**11:00 a.m. Featured Speaker**

*Mr. Jeffrey Curran, Environmental Lab Consultant, Connecticut Dept. of Public Health*

**Overview and Status Report on the Connecticut Data Quality Improvement Program**

**12:00 p.m. Lunch & Speaker**

*Mr. Gene Benson*

**Environmental Justice: Alternatives for Community & Environment**

**1:30 PM Meeting Adjourns**