



*Division of Public Health Services*

*Public Health Preparedness Services*

*Bureau of State Laboratory Services*

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JANICE K. BREWER, GOVERNOR

WILL HUMBLE, DIRECTOR

FAX TRANSMITTAL SHEET

**DATE:** March 02, 2012

**TO:** Laboratory Director and QA Manager

**FROM:** Steven D. Baker, Office Chief  
Laboratory Licensure and Certification

**Subject:** Information Update #111

**Pages:** 4 (including cover)

**NOTE:** If any of the pages are missing, please call (480) 284-6869 or (602) 364-0720.

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***THIS MESSAGE AVAILABLE IN ALTERNATIVE FORMAT UPON REQUEST, BY CONTACTING:***

***Prabha Acharya at (480) 284-6869***

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JANICE K. BREWER, GOVERNOR  
WILL HUMBLE, DIRECTOR

## Information Update

March 02, 2012

### Update #111

1. MICE (SW 846 Methods Information and Communication Exchange) contact information has changed, please make a note:

Email: [mice@techlawinc.com](mailto:mice@techlawinc.com)

Phone: (703) 818-3238

Fax: (703) 818-8813

2. **Director Approved:**

ASTM D3590-89/02-A/B was approved for Kjeldahl Nitrogen in wastewater; this is a combination of block digestion and selective electrode method.

40 CFR 50, Appendix L, Reference Method for the Determination of Fine Particulate Matter as PM 2.5 in the Atmosphere.

40 CFR 50, Appendix O, Reference Method for the Determination of Coarse Particulate Matter as PM 10-2.5 in the Atmosphere.

3. **SIM for EPA Method 625:**

We received the following information from EPA, Wastewater Program with regards to the quality control requirements if SIM (Selective Ion Monitoring) is used for the analysis by EPA Method 625:

*In the proposed MUR, once final (hopefully in Jan 2012), we proposed in Part 136.6 the following language about SIM mode: (xv) Use of Selected Ion Monitoring (SIM) mode for analytes that cannot be effectively analyzed in full scan mode and reach the required minimum detectible concentration. False positives are more of a concern when using SIM analysis, so at a minimum, one quantitation and two qualifying ions must be monitored for each analyte (unless less than three ions with intensity greater than 15% of the base peak are available). The ratio of the*

two qualifying ions to the quantitation ion must be evaluated and should agree with the ratio of an authentic standard within plus/minus 20 percent. Analyst judgment must be applied to the evaluation of ion ratios since the ratios can be affected by co-eluting matrix compounds. The signal to noise ratio of the least sensitive ion should be at least 3:1. Retention time should match within 0.05 minute of an authentic standard analyzed under identical conditions. Matrix compounds can cause minor shifts in retention time and can be evaluated by observing any shifts in the retention times of the internal standards. The total scan time should be such that a minimum of eight scans are obtained per chromatographic peak.

*SIM mode is one option that may be used in wastewater if the analyst is experiencing a problem with one or more organic analyte in a multi-analyte organic method such as EPA method 625. This problem should be documented.*

**4. Filtration of Method blanks in Standard Methods 9222B and 9222D:**

We posed a question to EPA Region IX seeking their advice if the following filtration practice for the blanks in the above methods was acceptable and their response is included below:

Question: We have concerns if the following practice is acceptable to confirm that the samples do not have carry over during the filtration step; using a manifold system each sample is filtered using a sterile filter unit that has been wrapped or exposed the surfaces to ultraviolet light for initial use and reuse within the series. At the end of the series, a sterile rinse water sample (blank) is inserted using a new sterile filter unit or one that has been used and sterilized. This is essentially the same as filtering the blank at the beginning of the series of samples and does not demonstrate that the rinses would have been adequate in preventing cross contamination (SM 9222D.2.b and 9222B.5.c). Please advice.

EPA Region IX response:

*..... If a lab is reusing funnels they must use one of the sample funnels in use to run their end-of-run blank and not a new sterile funnel. That would not be testing their process and would be a deficiency. If every filter in use is subject to UV before reuse, then I think it is acceptable to do the same for the blank, using a funnel used for samples, and not a new sterile funnel. If they are using disposable funnels and use a new funnel for every sample, then they could use a new funnel for their end-of-run blank.*

**5. Proposed Oil and Grease method:**

EPA has issued a NODA (Notice Of Data Availability) for a new infrared spectroscopy method; the federal register announcement

[www.gpo.gov/fdsys/pkg/FR-2011-12-14/pdf/2011-32063.pdf](http://www.gpo.gov/fdsys/pkg/FR-2011-12-14/pdf/2011-32063.pdf)

**6. Alkalinity:**

In the last Information Update 110, dated November 04, 2011, we had the following requirements for the alkalinity method:

A blank, field or lab duplicates, LCS (purchased) and an annual PT; there will be no requirements for an MDL study. Since then we have received additional comments from the labs and based on the comments, we have changed the LCS specification to either purchased or in-house.

**7. MRL Confirmation and Certification Requirements for UCMR-3:**

The following information was posted by EPA Cincinnati in response to a question posed by an assessor through the State Assessors' email communication system, if the MRL confirmation test outlined in EPA Method 524.3, Section 9.2.4 is performed using the procedure outlined in <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/methods.cfm>.

However, please note that UCMR is a direct implementation program through EPA. EPA is granting "approval" to laboratories who want to analyze samples for UCMR. States do not need to certify labs for UCMR, and in fact, if labs are not "approved" through EPA's program, they cannot analyze samples for UCMR. This is because these are unregulated contaminants, and each UCMR cycle is only five years, and we do not want states to spend resources certifying labs for something that may *never be regulated*.

*See the following website for more information.*

<http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/laboratories.cfm>

- 8.** The Wastewater Operator Training workshop scheduled for 16May2012 at the ADHS Laboratory (a cooperative offering by AZ Water, ADEQ, and ADHS) will cover topics of interest for plant laboratorians and operators. The agenda includes lectures and demonstrations of laboratory procedures and field practices commonly performed by treatment plant facilities. Currently planned presentations include: Colilert by IDEXX, Total Chlorine Residual, Turbidity, pH, Conductivity, Temperature, Dissolved Oxygen, and Biomonitoring "WET" testing. Discussion of analytical results and their interpretation is to be included as well. Professional development hours (PDH's) will be granted for the course to those attending.
- 9.** Please contact Prabha Acharya @ (480) 284-6869/(602) 364-0720 or [acharyp@azdhs.gov](mailto:acharyp@azdhs.gov) for any technical or method related questions. The earlier Information Updates can be accessed @ <http://www.azdhs.gov/lab/license/tech/infoup.htm>



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JANICE K. BREWER, GOVERNOR  
WILL HUMBLE, DIRECTOR

**FAX TRANSMITTAL SHEET**

**DATE:** May 25, 2012

**TO:** Laboratory Director and QA Manager

**FROM:** Steven D. Baker, Office Chief  
Laboratory Licensure and Certification

**Subject:** Information Update #112

**Pages:** 6 (including cover)

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JANICE K. BREWER, GOVERNOR  
WILL HUMBLE, DIRECTOR

## **Information Update**

**May 25, 2012**

### **Update #112**

1. Guidelines Establishing Test Procedures for Analysis of Pollutants Under Clean Water Act: Analysis and Sampling Procedures, 29758-29846, Final Rule, was published in the Federal Register on May 18, 2012. The complete document can be found at the following website:

<http://www.gpo.gov/fdsys/pkg/FR-2012-05-18/pdf/2012-10210.pdf>

Some of the notable changes are:

- A. New EPA Methods and New Versions of Previously Approved EPA Methods
- B. New Standard Methods and New Versions of Approved Standard Methods
- C. New ASTM Methods and New Versions of Previously Approved ASTM Methods
- D. New Alternate Test Procedures at 40 CFR 136.3
- E. Clarifications and Corrections to Previously Approved Methods in 40 CFR 136.3
- F. Revisions in Table II at 40 CFR 136.3(e) to Required Containers, Preservation Techniques and Holding Times
- G. Revisions to 40 CFR 136.4 and 136.5
- H. Revisions to Method Modification Provisions at 40 CFR 136.6
- I. New Quality Assurance and Quality Control Language at 40 CFR 136.7

2. Arizona Department of Health Services Office of Environmental Licensure and Certification director approved some of the pertinent items from the above rule and that document is attached at the end of this Update;

Some useful information:

- A. If a laboratory is already licensed for EPA Method 624, there is no additional fee to add acrolein and acrylonitrile to the method. The supporting documents must be available for review during the next routine onsite audit. In addition to SOP, IDOC, MDL, the laboratory must have documentation about its ability to measure these analytes at the levels necessary to comply with associated regulations. Please provide a successful PE study along with a request to add these analytes to the 624 method.
  - B. To add a method to lab's license, the supporting documents (IDOC, MDLs, SOP, successful PE study) along with the applicable method and instrument fees (if applicable) must be provided.
  - C. The new versions of the Standard Methods, except for Biochemical Oxygen Demand, SM 5210B-2001, were not director approved; they will be approved at the next Rule making unless a lab provides very compelling reason to add any particular method.
  - D. Footnotes applicable to the inorganic test procedures (Table IB) and Required Containers, Preservation Techniques and Holding Times (Table II) have been director approved.
  - E. It is not required to get certification from Region IX for adding Dissolved Oxygen by Hach method 10360 to lab's license; the request can be sent to the Licensure Office directly.
3. Please contact Prabha Acharya @ (480) 284-6869/(602) 364-0720 or [acharyp@azdhs.gov](mailto:acharyp@azdhs.gov) for any technical or method related questions. The earlier Information Updates can be accessed @ <http://www.azdhs.gov/lab/license/tech/infoup.htm>

4. The items included in the Director Approval on May, 23 012.

**Approval of Guidelines Establishing Test Procedures for the Analysis of Pollutants  
Under the Clean Water Act; Analysis and Sampling Procedures; Final Rule  
Federal Register Volume 77, Number 97  
Friday, May 18, 2012**

<b>Analyte</b>	<b>Method</b>	<b>Reference</b>
Biochemical Oxygen Demand (BOD5)	SM 5210-2001	Standard Methods for the Examination of Water and Wastewater, 21 <sup>st</sup> Edition, 2005, available at <a href="http://www.standardmethods.org">http://www.standardmethods.org</a>
Carbanaceous Biochemical Oxygen Demand (CBOD5)	SM 5210-2001	Standard Methods for the Examination of Water and Wastewater, 21 <sup>st</sup> Edition, 2005, available at <a href="http://www.standardmethods.org">http://www.standardmethods.org</a>
Oil and Grease	EPA Method 1664, Revision B	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, Revision B, February 2010, EPA-821-R-10-001, available at <a href="http://water.epa.gov/scitech/methods/cwa/methods_index.cfm">http://water.epa.gov/scitech/methods/cwa/methods_index.cfm</a>
Metals	EPA Method 200.5, Revision 4.2	Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry, Revision 4.2, October 2003. EPA/600/R-06/115, available at <a href="http://water.epa.gov/scitech/methods/cwa/methods_index.cfm">http://water.epa.gov/scitech/methods/cwa/methods_index.cfm</a>
Organochlorine pesticides	EPA Method 608.1	The Determination of Organochlorine Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Organophosphorous Pesticides	EPA Method 614.1	The Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Organochlorine Pesticides	EPA Method 608.2	The Determination of Certain Organochlorine Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Organophosphorus Pesticides	EPA Method 614	The Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Chlorinated Herbicides	EPA Method 615	The Determination of Chlorinated Herbicides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Organohalide Pesticides	EPA Method 617	The Determination of Organohalide Pesticides and PCBs in

and PCBs		Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Triazine Pesticides	EPA Method 619	The Determination of Triazine Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Organophosphorus Pesticides	EPA Method 622	The Determination of Organophosphorus Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Thiophosphate Pesticides	EPA Method 622.1	The Determination of Thiophosphate Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Carbamate and Urea Pesticides	EPA Method 632	The Determination of Carbamate and Urea Pesticides in Municipal and Industrial Wastewater, available at <a href="http://water.epa.gov/scitech/methods/cwa/industry.cfm">http://water.epa.gov/scitech/methods/cwa/industry.cfm</a>
Acrolein and Acrylonitrile	EPA Method 624	Purgeables, available at 40 CFR, Part 136, Appendix A. Approval of Method 624 for the definitive determination of acrolein and acrylonitrile (the laboratory must provide documentation about its ability to measure these analytes at the levels necessary to comply with associated regulations),
Dissolved Oxygen	Hach Company's Method 10360	Luminescence Measurement of Dissolved Oxygen in Water and Wastewater and for Use in the Determination of BOD5 and cBOD5, Revision 1.2 dated October 2011, available from Hach Company, P.O. Box 389, Loveland, CO 80537.
Dissolved Oxygen	In-Situ Incorporated's Method 1002-8-2009	Dissolved Oxygen Measurement by Optical Probe, 2009, available from In-Situ Incorporated, 221 E. Lincoln Avenue, Ft. Collins, CO 80524; Telephone 970 498 1500.
Biochemical Demand (BOD)	In-Situ Incorporated's Method 1003-8-2009	Biochemical Demand (BOD) Measurement by Optical Probe, 2009, available from In-Situ Incorporated, 221 E. Lincoln Avenue, Ft. Collins, CO 80524; Telephone 970 498 1500.
Carbonaceous Biochemical Oxygen Demand	In-Situ Incorporated's Method 1004-8-2009	Carbonaceous Biochemical Oxygen Demand (CBOD) Measurement by Optical Probe, 2009, available from In-Situ Incorporated, 221 E. Lincoln Avenue, Ft. Collins, CO 80524; Telephone 970 498 1500.
Cryptosporidium	Method 1622: <i>Cryptosporidium</i> in Water by Filtration/IMS/FA,	Cryptosporidium in Water by Filtration/IMS/FA (ambient water), EPA-821-R-05-001. December 2005., US EPA, available at <a href="http://water.epa.gov/scitech/methods/cwa/methods_index.cfm">http://water.epa.gov/scitech/methods/cwa/methods_index.cfm</a>
Cryptosporidium and Giardia	Method 1623. <i>Cryptosporidium</i> and <i>Giardia</i> in Water by Filtration/IMS/FA.	Cryptosporidium and Giardia in Water by Filtration/IMS/FA (ambient water), EPA-821-R-05-002, December 2005, US EPA, available at <a href="http://water.epa.gov/scitech/methods/cwa/methods_index.cfm">http://water.epa.gov/scitech/methods/cwa/methods_index.cfm</a>

(a) Definitions of terms used in this section. (b) Method Modifications (1), (2), (3) and (4) (A) through (W)	Method Modifications and Analytical Requirements	40 CFR 136.6
Footnotes 5, 6, 30, 38, 60, 61, and 63	Table I B- List of Approved Inorganic Test procedures	40 CFR 136.3
Footnotes 4, 5, 6, 16 and 22	Table II - Required Containers, Preservation Techniques, and Holding Times	40 CFR 136.3 (e)

**40 CFR Part 136.7: If a method lacks QA/QC procedures, the permittee/laboratory has options to comply with 12 essential QA/QC requirements:**

If an approved method incorporates QA/QC procedures (as applicable to that method), the laboratory should simply follow the method as written. This is the case for **most** approved methods at Part 136 and this new requirement does not apply in those instances. Standard Methods incorporated new QC requirements starting with the 20<sup>th</sup> edition of Standard Methods similar to the QC requirements included in EPA methods for the last two decades. Thus, most Standard Methods that are approved methods in Part 136 already contain QA/QC requirements, **as applicable**. [For example, an MDL determination is not applicable for pH and thus this element is not required.]

The rule provides guidance in those few cases when the method lacks QA/QC procedures. In those cases, the permittee/laboratory has the following options to comply with the QA/QC requirements:

- a. Refer to and follow the QA/QC published in the “equivalent” EPA method for that parameter that has such QA/QC procedures;
- b. Refer to the appropriate QA/QC section(s) of an approved Part 136 method from a consensus organization compendium (such as Standard Methods); or
- c. Incorporate the twelve quality control elements, **where applicable**, into the laboratory’s documented standard operating procedure (SOP) for performing compliance analyses when using an approved Part 136 method when the method lacks such QA/QC procedures. One example of a method that does not contain QA/QC is EPA Method 310.2 for alkalinity (which dates back to the 1970s).



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WILL HUMBLE, DIRECTOR

**FAX TRANSMITTAL SHEET**

**DATE:** June 26, 2012

**TO:** Laboratory Director and QA Manager

**FROM:** Steven D. Baker, Office Chief  
Laboratory Licensure and Certification

**Subject:** Information Update #113

**Pages:** 4 (including cover)

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JANICE K. BREWER, GOVERNOR

WILL HUMBLE, DIRECTOR

## Information Update

June 26, 2012

Update #113

1. **Further clarification to the certification process of acrolein and acrylonitrile by EPA Method 624:**

The Office of Licensure and Certification would like to inform you, if your lab is licensed for EPA Method 624 the additional certification for acrolein and acrylonitrile by EPA Method 624 is no longer required. The promulgation of the Guidelines Establishing Test Procedures for Analysis of Pollutants Under Clean Water Act: Analysis and Sampling Procedures, 29758-29846, Final Rule, (was published in the Federal Register on May 18, 2012) has included these analytes as part of the target list of EPA Method 624 thus eliminating the need to get certified for these two analytes separately.

Office of Licensure and Certification has removed acrolein and acrylonitrile from the Environmental Application Form and these analytes will not appear as a separate line item in the lab's licensed parameter list as well. This action will not affect the certification of these analytes by EPA Methods 603 and 1624B.

2. **If the labs would like to participate in UCMR3 program, they must first obtain approval from EPA; it involves participating in an EPA monitored PE study consisting of 28 chemical contaminants utilizing seven methods and EPA uses the guidance document titled "*UCMR3 Laboratory Approval Requirements and Information Document V2.pdf*" for approval of the labs. Michella Karapondo is the UCMR Laboratory Approval Coordinator and she can be reached at (513) 569 7141 or by email – [karapondo.michella@epa.gov](mailto:karapondo.michella@epa.gov)**

After obtaining approval from EPA, the Arizona licensed labs must get Arizona certification for all the UCMR3 methods before actively participating in testing and reporting of results.

3. **The following methods have been Director Approved:**

A. **Uranium by SM 7500 UC, Standard Methods 21st Edition, 2005.**

**B. EQL-310-189---Lead in Ambient Air by TSP-ICPMS**

**C. UCMR3 methods/compounds in drinking water:**

- i. Method 218.7: Determination of Hexavalent Chromium in Drinking Water by Ion Chromatography with Post-Column Derivatization and UV-Visible Spectroscopic Detection.**
- ii. Method 539: Determination of Hormones in Drinking Water by Solid Phase Extraction (SPE) and Liquid Chromatography Electrospray Ionization Tandem Mass Spectrometry (LC-ESI-MS/MS).**
- iii. Method 522: Determination of 1,4-Dioxane in Drinking Water by Solid Phase Extraction (SPE) and Gas Chromatography/Mass Spectrometry (GC/MS) with Selected Ion monitoring (SIM).**
- iv. Method 537: Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)**
- v. Chlorate by EPA Method 300.1; Determination of Inorganic Anions in Drinking Water by Ion Chromatography (IC)**
- vi. Cobalt, Molybdenum, Vanadium and Strontium by EPA Method 200.8 (Revision 5.4)- Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry (ICP/MS).**

**4. We received the following clarification regarding DO, BOD, and CBOD methods that were approved recently by EPA:**

**The revised version of Hach Method 10360 (Revision 1.2, Dated October 2011) is available from Hach. This version of the method includes Quality Control (QC) procedures and acceptance criteria to be used when measuring dissolved oxygen, BOD or CBOD using the Hach luminescent dissolved oxygen probe.**

**When an approved method contains QC tests and QC acceptance criteria, the appropriate QC tests are to be performed and the QC acceptance criteria are to be met or corrective action is to be taken, when using those methods to measure regulated parameters for compliance monitoring reporting purposes under the Clean Water Act.**

**Given that Hach Method 10360 Revision 1.2, October 2011 is an approved method for measurement of dissolved oxygen, BOD and CBOD, there is no valid reason for citing SM**

**5210, SM 4500-O G or In-Situ's BOD 1004-8-2009 when using the Hach DO probe for measuring these parameters.**

**Similarly, since In-Situ Method BOD 1004-8-2009 is an approved method for measurement of BOD, there is no valid reason to cite SM 5210B when using the In-situ probe to measure BOD.**

**5. If a laboratory would like to receive a copy of the Hach Method 10360 (Revision 1.2, Dated October 2011), please send our Office a request and we will provide you with a copy.**

**6. The use of hydrogen as an alternate carrier gas in drinking water compliance methods:**

**Per the terms of the Alternate Test Procedure (ATP) program, the Office of Ground Water and Drinking Water's Technical Support Center (OGWDW/TSC) has determined that hydrogen is an acceptable carrier for gas chromatography and may be used in place of helium in drinking water compliance methods. This replacement is allowed as long as all of the quality control criteria in the method are met. Please consult your instrument manufacturer for any special instructions regarding this conversion.**

**7. Please contact Prabha Acharya @ (480) 284-6869/(602) 364-0720 or [acharyp@azdhs.gov](mailto:acharyp@azdhs.gov) for any technical or method related questions. The earlier Information Updates can be accessed @ <http://www.azdhs.gov/lab/license/tech/infoup.htm>**



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FAX TRANSMITTAL SHEET

**DATE:** November 06, 2012

**TO:** Laboratory Director and QA Manager

**FROM:** Steven D. Baker, Office Chief  
Laboratory Licensure and Certification

**Subject:** Information Update #114

**Pages:** 4 (including cover)

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JANICE K. BREWER, GOVERNOR

WILL HUMBLE, DIRECTOR

## Information Update

November 06, 2012

### Update #114

**1. LCR/LDR Requirements for the EPA 200 and 300 series methods:**

Recently our Office had communications with EPA Drinking Water and Wastewater Programs with regards to the requirements of verifying LCR/LDR at method specified frequencies for the 200 and 300 series EPA methods. As a result of those discussions, our Office has modified the LCR/LDR requirements and they are as follows:

- a. Analyze a LCR/LDR at the time of initial method set up or whenever the instrument is moved to a new location or a major repair is done as per the method specifications;
- b. Analyze a multi-point calibration curve (either linear or quadratic) for each batch or verify the multipoint curve with a check sample as per the method on each day of analysis;
- c. Make sure the calibration curve is within the LCR/LDR range;
- d. The quantitation of unknowns are done within the calibration curve;
- e. If the above criteria are met, then there is no need to repeat the LCR/LDR at the method specified frequency.

Please have the supporting documents available for the surveyors to review when they are on their scheduled audit.

**2. ELAC's technical subcommittee for data qualifiers has developed AZ Data Qualifiers Revision 4.0 to be used when qualifying analytical results for use in Arizona. Please see the Information Update 97 dated November 02, 2007 for the details on the usage requirements of the data qualifiers. You can access the revised qualifiers at the following website:**

**<http://www.azdhs.gov/lab/license/tech/infoup/data-qualifiers-rev4.pdf>**

The qualifiers with red font are the new additions and the highlighted sections are the modifications to the existing qualifiers to make it clearer. Please transition to the new version at your earliest convenience.

3. If your lab is licensed for a sub-list of compounds of a reference method for organics with multianalytes, please specify that shortened list in your SOP so that when the surveyors are on-site they will review only those compounds for which your lab is licensed.

4. Orthophosphate for NPDES Permits:

The following text is copied from several email communication between the Office of Laboratory Licensure and Certification of Arizona and EPA Region IX/EPA Cincinnati with regards to the preservation and filtering requirements for samples that require O-phosphate and Total phosphorous testing for NPDES compliance testing.

Holding time:

Samples to be used for measurement of total phosphorus are not filtered, are acidified with H<sub>2</sub>SO<sub>4</sub> upon collection and persulfate digestion is performed prior to analysis. The samples have a 28 day holding time.

Samples to be used for measurement of orthophosphorus (*orthophosphate*) for NPDES compliance monitoring are to be filtered immediately upon collection, cooled to less than or equal to 6 degrees C and analyzed within 48 hours of collection. Permit limits for orthophosphate have historically been developed based on the dissolved or bioavailable forms of orthophosphorus present in a given sample.

Sample collection requirements for drinking water samples to be measured for orthophosphorus for compliance monitoring under the Safe Drinking Water Act are different than those for samples to be used for NPDES compliance monitoring. The difference is that the samples are not to be filtered upon collection or prior to analysis.

5. TOC by 5310:

The following information is from Lem Walker of EPA Wastewater Program.

No modifications to the method are allowed; modifications to methods approved for the measurement of method-defined parameters do not fall within the flexibility specified at 40 CFR Part 136.6 and therefore must be evaluated as alternate test procedures. TOC is a method defined parameter.

From what I can tell by the information and descriptions on GE's website of the various types TOC analyzers that GE has on the market, the Seivers 5310 C Series TOC analyzers use UV/persulfate oxidation followed by conductometric detection to measure TOC. This would conform to SM5310 C and would be acceptable for use in NPDES compliance monitoring.

The following information is from Steve Wendeken of EPA Drinking Water Program

In both TOC and DOC determinations, organic carbon in the water sample is oxidized to produce carbon dioxide (CO<sub>2</sub>), which is then measured by a detection system. There are two different approaches for the oxidation of organic carbon in water samples to carbon dioxide gas: (a) combustion in an oxidizing gas and (b) UV promoted or heat catalyzed chemical oxidation with a persulfate solution. Carbon dioxide, which is released from the oxidized sample, is detected by a conductivity detector or by a nondispersive infrared (NDIR) detector. Instruments using any combination of the above technologies may be used in this method.

6. The following information is from MICE on PCBs holding time:

It is important to note that PCBs are quite stable compounds in environmental and waste samples, and a holding time prior to extraction of the sample may not be warranted. However, once extracted, it is advisable to analyze the sample within 40 days because, while the PCBs will likely not degrade, the solvent could evaporate over time, biasing the result high. If an extended hold time for extracts is desired, it is advised to perform a hold-time study to ensure that the extracts remain stable. We realize that isn't very practical if you are trying to see if extracts are stable for a year since you would have to wait a year to find out. However, a shorter period holding time study might be doable. The storage containers and seals would need to be carefully chosen to make sure solvent isn't lost over the extended time. If the storage container or seal type was changed, the holding time would have to be reevaluated. In the end, it may be easier to just go with 40 days to analyze the extracts.

ADHS enforces 1 year until extraction and 40 days after extraction.

7. ASTM Method D6239-09 was director approved for uranium in drinking water.

8. Please contact Prabha Acharya @ (480) 284-6869/(602) 364-0720 or [acharyp@azdhs.gov](mailto:acharyp@azdhs.gov) for any technical or method related questions. The earlier Information Updates can be accessed @ <http://www.azdhs.gov/lab/license/tech/infoup.htm>