

Ohio EPA Laboratory Certification Updates and Tips

OTCO Water Laboratory Webinar
May 11, 2021

Personnel

- Krystie Perry, Lab Certification Officer
- Charles Vasulka, Lab Certification Officer
- Julie Spangler, Lab Certification Supervisor

Personnel

Krystie



Personnel



Charlie

Personnel

Julie



Overview

- Applications
- October 2020 Rule Changes
- 2020 Manual Updates
- Survey Tips
- Cyanotoxin & Cyanobacteria Certification
- Method Detection Limits
- Lab Certification During the Pandemic
- The Future of Laboratory Certification
- Tips for Remote Surveys

Applications - Chemistry



Ohio EPA Office Use Only			
Application ID:		Type:	<input type="checkbox"/> Standard Chemistry <input type="checkbox"/> Limited Chemistry
Received:	/ /	Approved:	/ /
Revenue ID:		Fee Applied:	

Chemical Application for Certification

Application for (check applicable boxes):

Initial Renewal Add Analyst(s) Add Method(s)

Name of Laboratory:			
Laboratory Certification Number:			
Mailing Address:			
City:		State:	Zip: -
Laboratory Address:			
City:		State:	Zip: -
Phone Number:	() -	Extension:	Fax Number: () -
Email Address:			County:
Ohio EPA District:			
Name of Primary Contact for the Laboratory:			
	First	Middle Initial	Last
Date Laboratory Certification Expires: / /			

NOTICE

In order to be processed, the most current version of the application must be used, and it must be complete and legible. The most current version is located on our website at <https://epa.ohio.gov/ddagw/labcert>. After acceptance of this application, an invoice will be generated. Additionally, the lab must have copies of all referenced methods and an acceptable SOP, or the most current version of the Ohio EPA lab certification manual.



Applications - Chemistry

Analyst Information:

- List analyst name and analyst number.
- Identify if an analyst is seeking Certification or Operational Certification.
- Mark NEW if an analyst is new to this laboratory or is changing status.
- Identify the analyte(s) for which each analyst is seeking certification.
The abbreviated test methods are listed on page 3.

Analyst Name and Analyst Number	Certified	Operationally Certified	NEW	Alkalinity	Chlorine	Fluoride	Hardness	pH	Stability	Turbidity	Chloride	Chlorite	Chlorine Dioxide	Nitrate	Nitrite	Bromide	Orthophosphate	Phosphorous	Sulfate	TDS	TOC/DOC	Cyanide	UV 254	Other
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Applications - Chemistry

Test	Select Method(s) in use. If not listed, please list method reference.									
Alkalinity	<input type="checkbox"/>	SM 2320 B	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Bromide	<input type="checkbox"/>	EPA 300.0	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Chloride	<input type="checkbox"/>	SM 4500 Cl-B	<input type="checkbox"/>	EPA 300.0	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Chlorine	<input type="checkbox"/>	SM 4500 Cl-D	<input type="checkbox"/>	SM 4500 Cl-F	<input type="checkbox"/>	SM 4500 Cl-G	<input type="checkbox"/>		<input type="checkbox"/>	
Chlorite	<input type="checkbox"/>	SM 4500 ClO ₂ -E	<input type="checkbox"/>	ChlorDiox Plus - Palintest	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
ClO ₂ : Chlorine dioxide	<input type="checkbox"/>	SM 4500 ClO ₂ -D	<input type="checkbox"/>	SM 4500 ClO ₂ -E	<input type="checkbox"/>	ChlorDiox Plus - Palintest	<input type="checkbox"/>		<input type="checkbox"/>	
Cyanide	<input type="checkbox"/>	SM 4500 CN-C	<input type="checkbox"/>	SM 4500 CN-E	<input type="checkbox"/>	QuikChem 10-204-00-1-X	<input type="checkbox"/>		EPA 335.4	
Fluoride	<input type="checkbox"/>	SM 4500 F-C	<input type="checkbox"/>	EPA 300.0	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Hardness	<input type="checkbox"/>	SM 2340 C	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Nitrate	<input type="checkbox"/>	SM 4500 NO ₃ -E	<input type="checkbox"/>	SM 4500 NO ₃ -F	<input type="checkbox"/>	Hach 10206, Rev 2.0 Nitrate TNT System	<input type="checkbox"/>	EPA 300.0	<input type="checkbox"/>	EPA 353.2
Nitrite	<input type="checkbox"/>	SM 4500 NO ₂ -B	<input type="checkbox"/>	SM 4500 NO ₂ -E	<input type="checkbox"/>	SM 4500 NO ₂ -F	<input type="checkbox"/>	EPA 300.0	<input type="checkbox"/>	EPA 353.2
Ortho - P	<input type="checkbox"/>	SM 4500 P-E	<input type="checkbox"/>	EPA 300.0	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
pH	<input type="checkbox"/>	SM 4500 H*	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Phosphorous	<input type="checkbox"/>	SM 4500 P-B and E	<input type="checkbox"/>	SM 4500 P-B and F	<input type="checkbox"/>		<input type="checkbox"/>	EPA 365.1	<input type="checkbox"/>	
Stability	<input type="checkbox"/>	SM 2330 CaCO ₃ Saturation	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Sulfate	<input type="checkbox"/>	SM 4500 SO ₄ -C	<input type="checkbox"/>	SM 4500 SO ₄ -D	<input type="checkbox"/>	SM 4500 SO ₄ -E	<input type="checkbox"/>	EPA 300.0	<input type="checkbox"/>	
TDS	<input type="checkbox"/>	SM 2540 C	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
TOC/DOC	<input type="checkbox"/>	SM 5310 B	<input type="checkbox"/>	SM 5310 C	<input type="checkbox"/>	SM 5310 D	<input type="checkbox"/>	EPA 415.3	<input type="checkbox"/>	
Turbidity	<input type="checkbox"/>	SM 2130 B	<input type="checkbox"/>	Hach Method 10258 Turbidity by 360° Nephelometry	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
UV 254	<input type="checkbox"/>	SM 5910 B	<input type="checkbox"/>	EPA 415.3	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Other	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	

OATH

I certify that all of the information included on this application is true, complete and correct to the best of my knowledge and belief and are made in good faith. I affirm the right of the Ohio Environmental Protection Agency to inspect the laboratory, its operations and pertinent records. I agree the personnel to be approved will analyze applicable unknown performance samples provided at the time of the survey and will report the values within a time period designated by the Laboratory Certification Officer.

Signature of Primary Contact for Laboratory:		Date:	/ /
Title of Primary Contact for Laboratory:			

Send completed applications to:

DWLabCert@epa.ohio.gov



Applications – Chemistry-IA

Analyst Information:

- List analyst name and analyst number (if they have one).
- Identify if an analyst will be seeking Certification or Operational Certification at the time of the on-site survey.
If this application is approved, the analyst is only permitted to perform operational testing until successful completion of an on-site survey.
- Identify the analyte(s) for which each analyst is seeking certification. *The abbreviated test methods are listed below.*

New Analyst Name	Analyst Number (if applicable)	Certified	Operationally Certified	Alkalinity	Chlorine	Fluoride	Hardness	pH	Stability	Turbidity	Chloride	Chlorine Dioxide
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Trainer Information: Identify the analyst/trainer, analyst number, expiration date on analyst certificate and the tests for which they are certified.

Analyst/Trainer Name	Analyst Number	Expiration Date on Current Analyst Certificate	Alkalinity	Chlorine	Fluoride	Hardness	pH	Stability	Turbidity	Chloride	Chlorine Dioxide
		/ /	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		/ /	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Applications – Chemistry IA

Interim Authorization Training Documentation

Laboratory Name: _____
Date Training Started: ____ / ____ / ____

Name of Operator-In-Training: _____
Date Training Concluded: ____ / ____ / ____

Instructions: Samples must be collected at the same time and from the same source. A minimum of twenty days of results are required for all analyses, except stability which requires four sets of results performed on different days. Record the operator-in-training (OIT) results in “OIT” boxes and trainer results in “T” boxes. To be considered acceptable, the OIT results must be $\pm 10\%$ of the trainer’s results, with the exception of pH and turbidity. For pH, the OIT results must be within ± 0.1 pH units of the trainer’s results. For turbidity results ≥ 0.3 NTU, the OIT results must be $\pm 10\%$ of the trainer’s results. For turbidity results < 0.3 NTU, the OIT results must be within ± 0.03 NTU. Circle all results which are not acceptable and describe any corrective actions on page 5.

Corrective Actions for Unacceptable Results

Date of Unacceptable Result	Test	Trainer Name	Corrective Action Taken
/ /			
/ /			

OATH: I certify that all of the information above is complete and accurate to the best of my knowledge and belief. The operator-in-training has demonstrated adequate proficiency for the specified test(s) and will comply with all rules and conditions regarding laboratory certification.

Signature of Trainer:		Date:	/ /
Signature of OIT:		Date:	/ /

Applications - Microbiological

Analyst Information:

- List analyst name and analyst number.
 - Identify if an analyst is seeking Certification or Operational Certification.
 - Mark NEW if an analyst is new to this laboratory or is adding a method.
 - Identify the method(s) for which each analyst is seeking certification.
- If the method is not listed, choose **OTHER** and then list the method in the box below.*



Analyst Name and Number	Certified	Operationally Certified	NEW	MMO-MUG (SM 9223-B)			QUANTI-TRAY (SM 9223-B)			Membrane Filtration EC MUG SM 9222 B and G	OTHER
				COLILERT 24	COLILERT 18	COLISURE	COLILERT 24	COLILERT 18	COLISURE		

OTHER:

Applications – Micro IA

Analyst Information:

- List analyst name and analyst number (if they have one).
- Identify if an analyst will be seeking Certification or Operational Certification at the time of the on-site survey. ***If this application is approved, the analyst is only permitted to perform operational testing until successful completion of an on-site survey.***
 - Identify the method(s) for which each analyst is seeking certification.

New Analyst Name and Analyst Number (if applicable)	Certified	Operationally Certified	MMO-MUG (SM 9223-B)			QUANTI-TRAY (SM 9223-B)		
			COLILERT 24	COLILERT 18	COLISURE	COLILERT 24	COLILERT 18	COLISURE

Trainer Information: Identify the analyst/trainer, analyst number, expiration date on analyst certificate and the tests for which they are certified.

Analyst/Trainer Name	Analyst Number	Expiration Date on Current Analyst Certificate	MMO-MUG(SM 9223-B)			QUANTI-TRAY (SM 9223-B)		
			COLILERT 24	COLILERT 18	COLISURE	COLILERT 24	COLILERT 18	COLISURE

Applications – Micro IA

Interim Authorization Training Documentation

Laboratory Name: _____
 Date Training Started: _____

Name of Operator-In-Training: _____
 Date of Training Concluded: _____

Instructions: Analysts are required to analyze a minimum of seven samples per day, including the quality control (QC) samples. **It is recommended that at least one potentially positive sample be included.** Results must be generated in parallel with a trainer currently certified for SM 9223-B. Record the operator-in-training results in "OIT" boxes and trainer results in "T" boxes. To be considered acceptable, the OIT results must contain no false negatives and no more than one false positive in comparison to trainer results. Circle all results with a false negative or a false positive and describe any corrective action(s) on page 4.

Test Method		Date (Month/Day):							Date (Month/Day):							Date (Month/Day):							
		QC		Samples					QC		Samples					QC		Samples					
		+	-	1	2	3	4	5	+	-	1	2	3	4	5	+	-	1	2	3	4	5	
	OIT																						
	T																						
	OIT																						
	T																						
	OIT																						

Applications - Issues

- Not current version
- Method not listed
- Unacceptable data on parallel testing
 - Take samples at same time
 - Fill out corrective action section
- Mailing or faxing
 - Only email to dwlabcert@epa.ohio.gov

October 2020 Rule Changes

- OAC Rule 3745-81-27 Removed specific methods, referring to USEPA-approved drinking water analytical methods.
 - See <https://www.epa.gov/dwanalyticalmethods/approved-drinking-water-analytical-methods>
- OAC Rule 3745-81-28: Clarified that measurements for chlorine (free, total, combined) and chlorine dioxide do not need to be performed by a certified analyst.
- OAC Rule 3745-89-01: Added definition of “analyte” – substance undergoing analysis; removed definition of “deviation”.

October 2020 Rule Changes

- OAC Rule 3745-89-09: Added option of operational certification for micro.
- 3745-89-12 Allowing in-state laboratory acceptance with other acceptable certifications (e.g., NELAC)
 1. **Submit a copy of the current certificate of accreditation, issued to the laboratory by an accrediting body (e.g., NELAC).**
 2. **Submit an evaluation of the most recent PT sample study for the method(s)/analyte(s) which acceptance is being requested. (A provider of PT samples must be accredited by a Proficiency Testing Provider Accreditor that meets the National Environmental Laboratory Accreditation Conference requirements.)**
 3. **Submit reports from the most recent on-site inspection by the accrediting body issuing the certification to the laboratory. The on-site inspection must be completed by a U.S. EPA-certified Certification Officer.**
 4. **On the table on page 3, list all methods and specific analytes (per method) for which acceptance is being requested.**

2020 Manual Updates - Chemistry

- Updated terminology
- Updated the Proficiency Test (PT) sample section
- Updated laboratory space requirements
- In Chapter 5, added annual review requirements:
 - Primary Lab Contact - Chapters 1 thru 7 of manual
 - All Analysts - All methods in Chapter 8 for which they are certified
- Removed several methods not commonly used (e.g., Iron, Mn)
- Removed Manufacturer specific instructions where possible

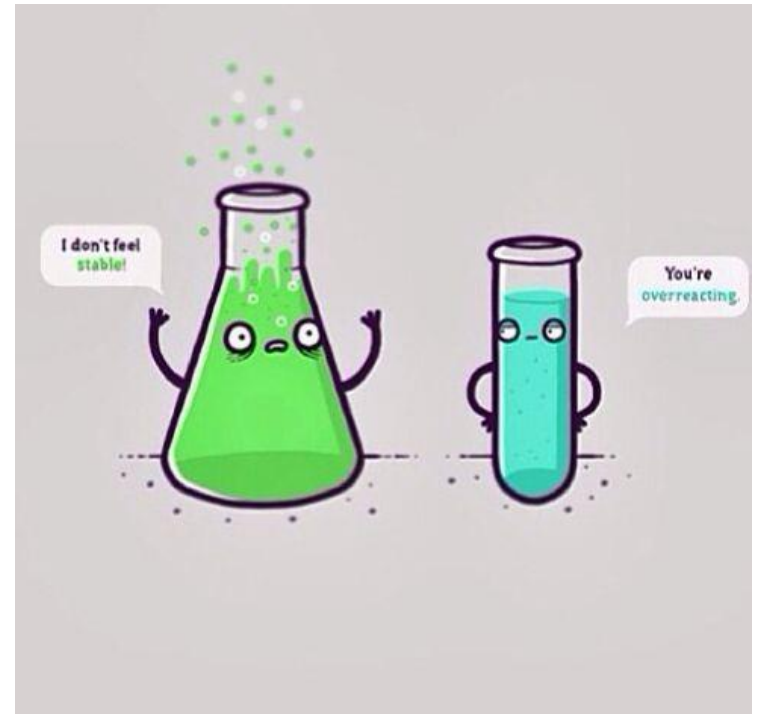
2020 Manual Updates - Chemistry

- Manufacturers' suggested storage conditions for Reagents
- Added Hach TU 5200
 - Method number is different
 - Contact Lab Cert to obtain updated certificates
 - No charge
 - Follow manufacturer's calibration verification
- QC requirements that were "per quarter" are now "every three months"
- Added secondary standards for chlorine meter calibration verification & new bench sheet

2020 Manual Updates - Chemistry

Stability Test Method

- Calcium Carbonate Saturation Method
 - Preferred
 - Stir saturated and unsaturated
- Langelier Index



2020 Manual Updates - Microbiological

- Updated terminology
- Updated the Proficiency Test (PT) sample section
- In Chapter 5, added annual review requirements:
 - Primary Lab Contact - Chapters 1 thru 7 of manual
 - All Analysts - All methods in Chapter 8 for which they are certified
- Changed to Manufacturers' suggested storage conditions for Reagents
- Added Operational Certification for MMO-MUG tests
- Added electronic thermometers (Data Logger) option

2020 Manual Updates - Microbiological

- Reagent Grade Water: It is sufficient to “test” the quality of reagent water by noting the resistivity indicator.
- QC requirements that were “per quarter” are now “every three months”
- Removed method for Fecal Coliform

Survey Tips - Chemistry

- QC requirements on first page of each method in the manual
- Never pipette directly out of a standard bottle
- Pat, don't wipe electrodes after rinsing
- Dry chlorine and turbidity vials with lint-free wipes
- Dry secondary chlorine gels with lint-free wipes

Alkalinity Analysis by Sulfuric Acid Titration Method		
Quick Reference	Standard/Reagent	Requirements
Standard/Reagent Storage	0.020 N Sulfuric Acid (H ₂ SO ₄)	Manufacturer's Recommendations
	Indicator (Bromcresol Green/Methyl Red)	Manufacturer's Recommendations
	Sodium Thiosulfate	Manufacturer's Recommendations
	0.020 N Sodium Carbonate (Na ₂ CO ₃) Standard	Manufacturer's Recommendations
Standard/Reagent Expiration	Standard/Reagent	Expiration
	0.020 N Sulfuric Acid (H ₂ SO ₄)	1 Year After Opening/ Manufacturer's Expiration Date
	Indicator (Bromcresol Green/Methyl Red)	1 Year After Opening/ Manufacturer's Expiration Date
	Sodium Thiosulfate	1 Year After Opening/ Manufacturer's Expiration Date
Required Quality Control	0.020 N Sodium Carbonate (Na ₂ CO ₃) Standard	1 Year After Opening/ Manufacturer's Expiration Date
	QC Procedure	Frequency
	Standardize Titrant	Once Per Month
Sample Collection	pH 4.5 Endpoint Verification	Once Per Month
	Preservation	Maximum Hold Time
	4°C	14 Days

Method Reference

Standard Methods 22nd Edition (2320)

On-Site Survey Requirements

- Each certified analyst must be able to perform the alkalinity titrant standardization described in Section 7.0 of this method.
- Operationally certified analysts will be required to analyze a plant tap sample and may be required to analyze a performance sample.
- Procedural technique will be observed.
- All reagents, standards and solutions used for this method will be audited for correct labeling and dating.
- All records will be audited.

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Survey Tips - Chemistry

- Correctly record blank verifications on monthly titration standardizations (can be mLs or drops).

Monthly Hardness Titrant Standardization Record									
Laboratory _____									
Standard Concentration _____									
Analyst	Date	Reagent Water Volume (mL)	Blank Verification Volume (mL)	Standard Volume (mL)	Titration #1	Titration #2	Titration #3*	Correction Factor*	Comments

*Correction factors are to be used only with laboratory-prepared titrant. See Sections 7.3 and 7.4 of this method for details.

Survey Tips - Micro

- **Reagent water** quality (indicator light) - verify prior to use
- **Incubator temperatures** must be recorded on weekends if samples are being incubated
- **Autoclave timer** must be checked only at times used (e.g., 15, 30, 45)
- **Balance verification** must be done prior to use
- **Sampling instructions** for micro samples requires analyzing for chlorine residual after disinfection of sample tap

MMO-MUG Analysis for Total Coliform and <i>E. coli</i> by Colilert and Colisure		
Quick Reference	Standard/Reagent/Equipment	Requirements
Standard/Reagent/Equipment Storage	MMO-MUG Reagent	Colilert – Dark Environment and Manufacturer's Recommendations Colisure – Refrigerated and Manufacturer's Recommendations
	Chemical Reagents	Manufacturer's Recommendations
	Dehydrated Media	Manufacturer's Recommendations
	Media Performance Check Cultures	Manufacturer's Storage Requirements
	Prepared Media	Refrigerated/Room Temperature
	pH Electrodes	pH 7 Buffer/Manufacturer's Storage Solution
Standard/Reagent Expiration	pH Buffers	Room Temperature
	Standard/Reagent	Maximum Storage Time
	MMO-MUG Reagent	Manufacturer's Expiration Date
	Chemical Reagents	Manufacturer's Expiration Date
	Dehydrated Media	6 Months After Opening or 1 Year After Opening if Stored in Desiccator
	10% Sodium Thiosulfate	1 Year After Preparation/ Manufacturer's Expiration Date
Required Quality Control	Media Performance Check Cultures	Manufacturer's Expiration Date
	Prepared Media	3 Months Refrigerated (screw-capped tubes/flasks/vessels) or 1 Week Room Temperature (sealed/covered)
	pH Buffers	6 Months After Opening/ Manufacturer's Expiration Date
	QC Procedure	Frequency
	Total Coliform/ <i>E. coli</i> positive	Once Per Month Per Analyst
	Sample/Test Bottle Sterility Check	One Per Batch Prepared or 1% Per Lot Received (maximum of 4 per lot)
Sample Collection	Sample/Test Bottle Fluorescence Check	Every Sample/Test Bottle Prepared or 1% Per Lot Received (maximum of 4 per lot)
	Media Performance Check	Once Per Batch
	MMO-MUG Reagent Check	Once Per Lot and Annually
	Glass/Electronic Thermometer/ Data Logger Calibration	Annually
	Dial Thermometer Calibration	Once Every Three Months
	Equipment Timers	Once Every Three Months
	pH Meter Calibration	Prior to Use
	pH Linearity/Slope/pH 4 Buffer	Prior to Use
	Balance Calibration Check	Prior to Use
	Refrigerator Record	Daily
	Incubator Record	Twice Daily
	Preservation	Maximum Holding Time
10% Sodium Thiosulfate	30 Hours	

Survey Tips - Micro

Media Preparation(e.g., TSB, BHI)

- Balance Calibration Record
- pH Meter Slope/Linearity Verification
- Media Quality Control Record
- Autoclave Sterilization Record
 - TSB or BHI at temperature 12-15 min
 - Autoclave door must be opened no later than 45 min after closing

Microbiological Test Data Sheets – all data from our bench sheets must be recorded to avoid invalidation of sample results.

Survey Tips - Micro

Autoclave Sterility Check

- Required once every three months, per autoclave
- May use biological indicator ampules, following manufacturer's instructions
- May use TSB or BHI, inoculated with a known coliform culture
- Ensure recorded on Autoclave Sterilization Record

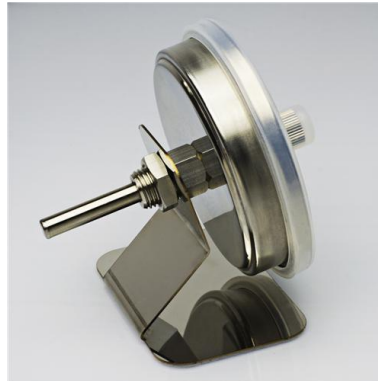
Thermometer Calibration Record

- Must first include the NIST thermometer's temperature at ice point
- Recommend including each thermometers serial number
- MRTs are not calibrated with NIST
- Autoclave Dial Thermometers are not required to be calibrated.

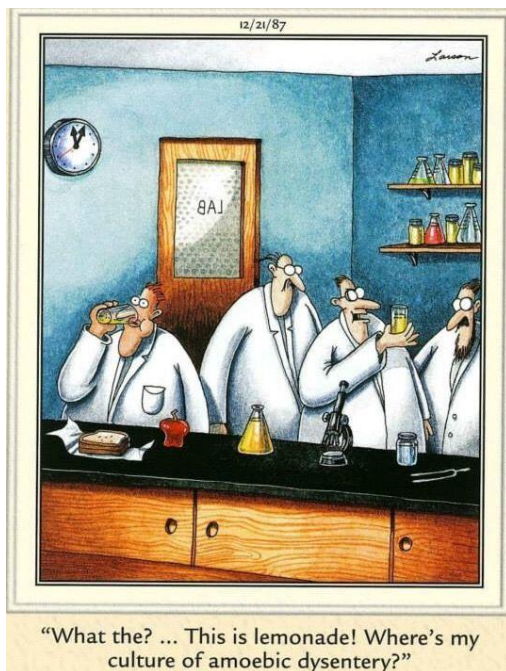
Survey Tips - Micro

Maximum Registering Thermometers (MRTs)

- Typically calibrated by Lab Certification staff
- Ohio Revised Code 3734.63, *Sale of mercury-containing thermometer* for promotional purposes.
 - If required to comply with federal law, these can be sold and distributed.
- Dial autoclave thermometers are not permitted.



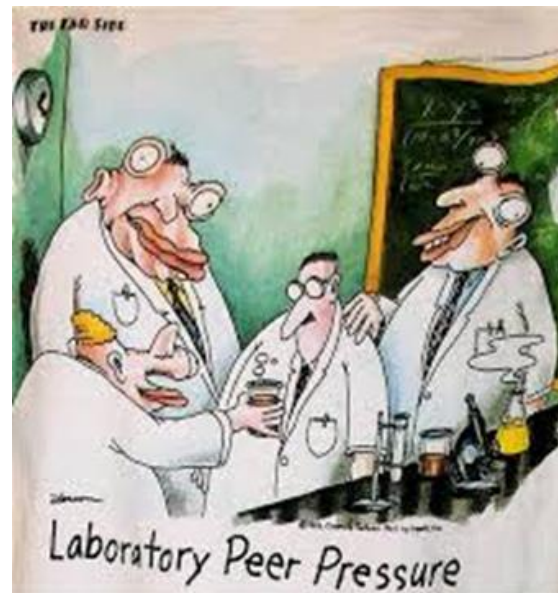
Survey Tips - General



- Update bench sheets to version in 2020 manuals.
- Ensure all laboratory records are recorded **using ink** and are printed legibly.
- Errors? Cross out with 1 line, initial, add correct information. **No White Out!!**
- Avoid eating or drinking in the lab.

Survey Tips - General

- If it's not written down, it didn't happen.
- Sorry, "But we've always done it that way..." doesn't supersede current requirements.



Cyanotoxin & Cyanobacteria Certification

- Annual MDLs and curves as well as associated test data are to be sent to the dwlabcert@epa.ohio.gov email.
 - **DO NOT** send these to past certification staff.
 - No qualifiers permitted for MDL studies.
- To add a new analyst for Cyanotoxin and/or Cyanobacteria certification between renewal periods:
 - For microcystin: submit their MDL study, including associated test data and calibration curves
 - For qPCR: submit calibration curves and sample results
- SOPs for microcystin and qPCR will soon be available on our Lab Certification website.
- Any MDL changes are coming from DDAGW.
 - Comments due by May 26, 2021 by email to ddagw_rulecomments@epa.ohio.gov

Method Detection Limits (MDLs)

EPA 821-R-16-006 – Definition and Procedure for the Determination of the Method Detection Limit, Revision 2, December 2016

- Applies to all drinking water MDLs except HABs.
- Must also be followed for initial MDLs
- Ensure all lab standard operating procedures are updated to reflect this revision

Lab Certification During the Pandemic

TIMELINE:

- Friday, March 13, 2020:
 - Our last day in the office.
- Mid-March to June 2020:
 - Worked on plans to remotely survey laboratories
 - USEPA approval in late July 2020
- June to July 2020:
 - Completed most of the HAB renewal surveys
- End of July 2020 to present:
 - Diligently working to complete surveys remotely.

WHAT KIND OF DOGS DO CHEMISTS HAVE?



LABORATORY RETRIEVERS

 CHEMISTRYJOKES.COM

Lab Certification During the Pandemic

Remote Surveys

- Survey letter and analyst certificates are emailed
- As of today, 270 remote surveys completed

Records

- Almost 100% electronic

Invoicing

- Invoicing now performed by Lab Cert staff

Website

- Lab Cert website recently updated
 - <https://epa.ohio.gov/ddagw/labcert>

Laboratory Certification

Currently Certified/Accepted Laboratories can be found [here](#).



Certified laboratories analyze drinking water samples for the presence of specific contaminants to help public water systems demonstrate that their water meets health based standards. Ohio EPA's laboratory certification program ensures laboratories are able to perform accurate testing using specific methods which have been approved by U.S. EPA.

Questions? Contact a member of the Laboratory Certification Section
Email: DWLabCert@epa.ohio.gov

Applications Lab Certification Proficiency Testing Resources and Reporting Contacts

Applications

Submit applications via DWLabCert@epa.ohio.gov or mail to the following address (a hard copy is not required):

Ohio EPA Division of Environmental Services (DES)
Laboratory Certification Section
8955 East Main Street
Reynoldsburg, OH 43068

DO NOT SEND PAYMENT WITH APPLICATION, WAIT FOR INVOICE.

To Access Applications, Click on the Links Below:

- [Chemical \(Limited and Standard\) \(Word\) \(PDF\)](#)
- [Cyanotoxin and Cyanobacteria Screening \(Word\) \(PDF\)](#)
- [Trace Metals \(Limited and Standard\) \(Word\) \(PDF\)](#)
- [Microbiological \(Word\) \(PDF\)](#)
- [Pesticide-SOC \(Word\) \(PDF\)](#)
- [Radiochemistry \(Word\) \(PDF\)](#)
- [THM-HAA-VOC \(Word\) \(PDF\)](#)
- [Out-of-State Acceptance \(Word\) \(PDF\)](#)
- [In-State Acceptance \(Word\) \(PDF\)](#)

Interim Authorization, Click on the Links Below:

- [MMO-MUG \(SM 9223\) Tests \(Word\) \(PDF\)](#)
- [Plant Control Tests \(Word\) \(PDF\)](#)

Applications Lab Certification Proficiency Testing Resources and Reporting Contacts

Laboratory Certification

- [Obtaining Laboratory Certification](#)
- [Laboratory Construction and Remodeling Requirements](#)
- [Requirements for Analyst Certification](#)
- [On-site Survey Requirements](#)
- [Issuance of Laboratory Certification](#)

Fee Schedule

Information on the fees assessed for the evaluation and certification of laboratories is available in the [Fee Schedule](#).

Applications Lab Certification Proficiency Testing Resources and Reporting Contacts

Proficiency Testing

- [Drinking Water Proficiency Testing Requirements](#)
- [Required Proficiency Testing Parameters](#)
- [Approved Proficiency Test Providers](#)

Applications Lab Certification Proficiency Testing Resources and Reporting Contacts

Resources and Reporting

Manuals

- [Laboratory Manual for Chemical Analyses of Public Drinking Water](#)
- [Laboratory Manual for Microbiological Analyses of Public Drinking Water](#)

Reporting

- [Reporting and Data Management](#)
- [Reporting Tips for Laboratories](#)
- [Cyanotoxin Analysis Benchsheets](#)

Additional Information

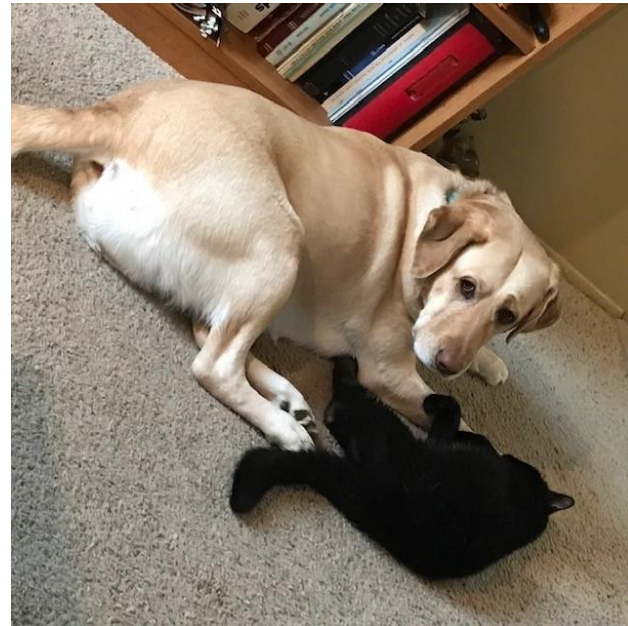
- [Laboratory Certification Rules](#)
- [Division of Environmental Services](#)

Lab Certification During the Pandemic

The last 14 months have been challenging, but nothing like getting used to our new co-workers!



Oliver & Spring Perry



Sadie & Gus Vasulka

Lab Certification During the Pandemic

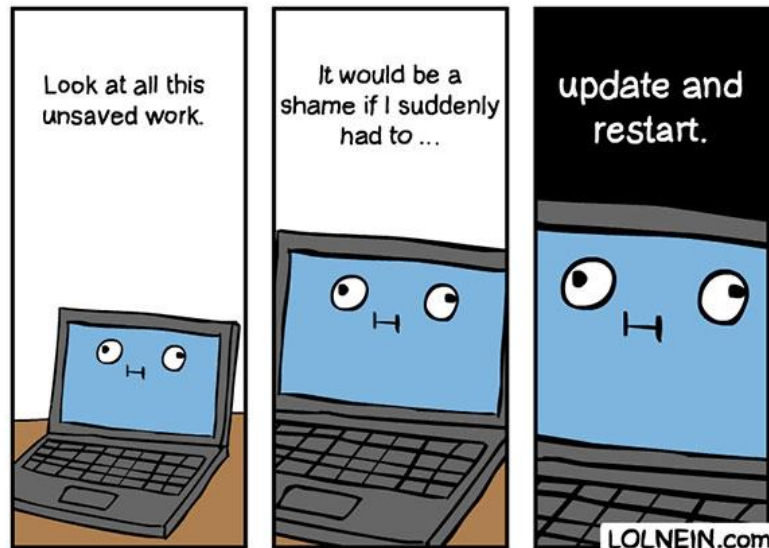
The last 14 months have been challenging, but nothing like getting used to our new co-workers!



Braxton & Bella Spangler

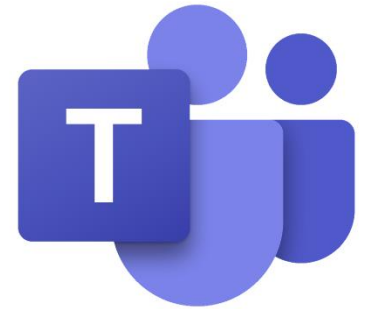
The Future of Laboratory Certification

- Still uncertain...
- Plan to be 100% electronic: records, applications, certificates.
- Interim authorization, HAB/qPCR and other surveys will stay remote.

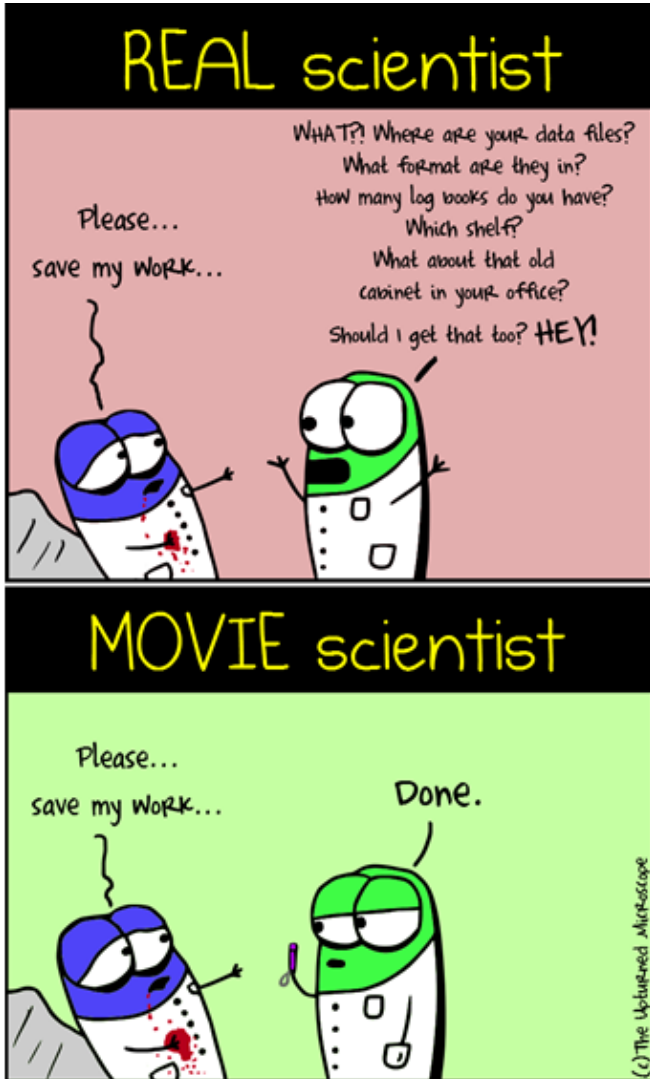


Tips for Remote Surveys

- Make a Microsoft Teams account ahead of time
- Have a device in mind that the lab can use
- Ask questions



Tips for Remote Surveys



- Scan and send record documents in sections



The Charger!

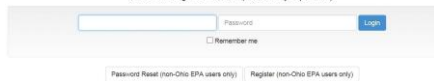
Step-By-Step Instructions

January 24, 2018

Electronic Submission of Data to Ohio EPA

Electronic submission of information to Ohio EPA cannot be completed with external devices (jump drives, CDs, etc.). Instead, please complete the following:

1. Go to Ohio EPA's file sharing website: <https://fileshare.epa.ohio.gov/>.



2. Click on the button in the bottom right hand corner to create an account.

Register (non-Ohio EPA users only)



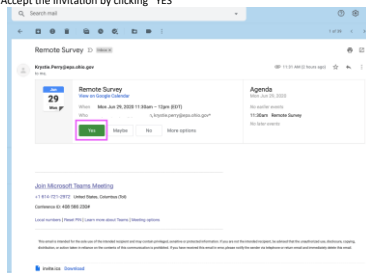
3. Provide your name, email address, and create a password to create an account.

Liquid Files Instructions

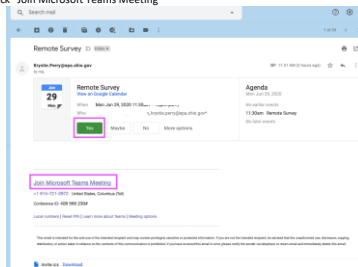
Step-by-Step on Setting up & Joining Microsoft Teams on an Apple Computer

*** Google Chrome browser works best when accessing Microsoft Teams online

1. Accept the invitation by clicking "YES"



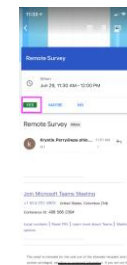
2. Click "Join Microsoft Teams Meeting"



Microsoft Teams Setup On a Computer/Laptop

Step-by-Step on Setting up & Joining Microsoft Teams on an iPhone

1. Accept the invitation by clicking "YES"



2. Click "Join Microsoft Teams Meeting"



Microsoft Teams Setup On a Mobile Device



Questions?

Contacts

Krystie Perry	(614) 644-4067	Krystie.perry@epa.ohio.gov
Julie Spangler	(614) 644-4222	Julie.spangler@epa.ohio.gov
Charles Vasulka	(614) 644-4266	Charles.Vasulka@epa.ohio.gov

<https://epa.ohio.gov/ddagw/labcert>

