

Ohio EPA
Laboratory Certification Update
2019

Laboratory Certification Update

- Personnel Changes

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- 2020 Chemistry Laboratory Manual update

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- 2020 Microbiological Laboratory Manual update

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- 2020 Microbiological Laboratory Manual update
- 2020 Laboratory Rules update
- Cyanotoxin & Cyanobacteria Program update

Personnel Changes

- Loss Last year:
- Mark Tomasi
- Andrew Bair

- New Last Year:
- Julie Spangler



Personnel Changes

- New This Year:

2020 Chemistry Laboratory Manual update

- Updated some terminology

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- Updated some terminology
- Updated the Proficiency Test (PT) sample section

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- Changed to Manufacturers' suggested storage conditions for Reagents

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- Added annual review of chapters 1 thru 8 of manual for all primary contacts

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- Added annual review of all methods used by all analysts in chapter 8

2020 Chemistry Laboratory Manual update

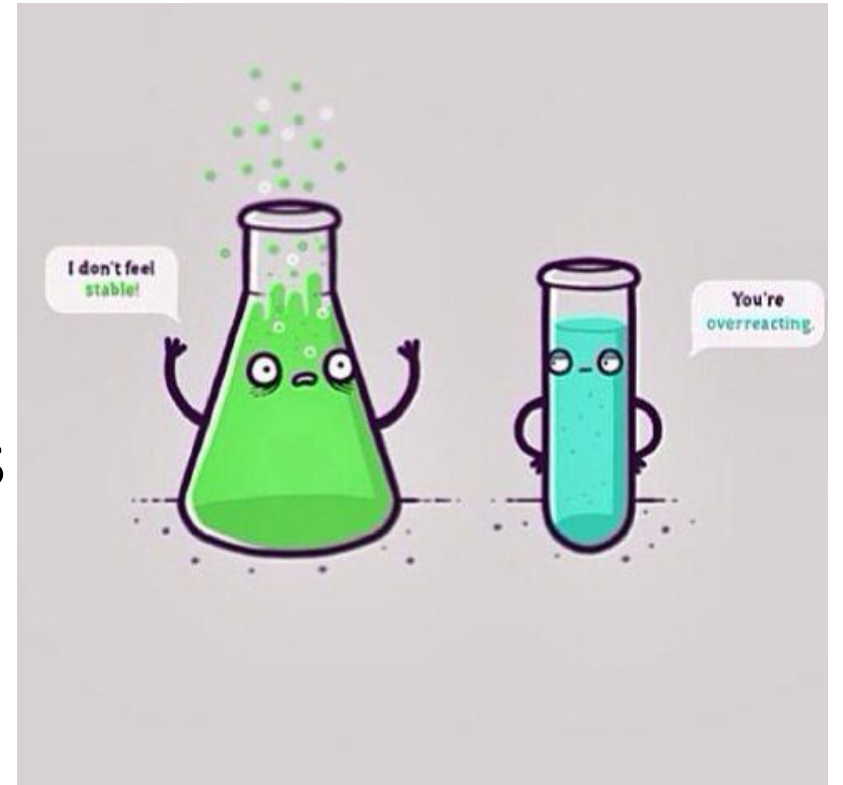
- Removed Iron Method
- Removed Manganese Method
- Removed Nitrate electrode Method
- Removed Manufacturer specific Instructions

Hach TU 5200 Calibration and use

- Method number is different
- Certificates must be updated
- Follow manufacturers calibration
- Vials Must be stored with Laboratory pure Water
- Do Not set Vials on counter
- Bottom of vial Must be Clean
- First reading is not always reliable
- Stable-Cal must be used for 1.0 NTU daily verification

Stability Test Method

- Calcium Carbonate Saturation Method – Preferred
- Langelier Index-
- Letter was sent in the last couple months



Iron & Manganese test methods

- Approved Methods for Manganese
 - 200.5 ICP-AES
 - 200.7 ICP-AES
 - 200.8 ICP-MS
 - 200.9 Furnace AA
 - SM 3111B Flame AA
 - SM 3113 Furnace AA
 - SM 3120 ICP-AES

Iron & Manganese test methods

- Recommended Approach

- OAC 3745-83-01

- (6) Manganese.

A community public water system that provides treatment to reduce manganese shall monitor for manganese at least at each entry point to the distribution system.

(a) Community systems serving up to and including two hundred and fifty persons shall monitor either of the following:

(i) Weekly with an in-house test kit in accordance with paragraph (F)(6)(c) of this rule and one split sample monthly by a certified laboratory.

(ii) Weekly by a state certified laboratory.

(b) Community systems serving greater than two hundred fifty persons shall monitor either of the following:

(i) A minimum of five days per week with an in-house test kit in accordance with paragraph (F)(6)(c) of this rule and one split sample monthly by a certified laboratory.

(ii) Weekly by a state certified laboratory.

(c) A manganese test kit shall have a minimum detection level of 0.02 milligrams per liter. Furthermore, the deviation of the split sample shall be no greater than 0.04 milligrams per liter. If it is greater, then the public water system shall cease monitoring with the test kit and substitute with weekly monitoring at a state certified laboratory. A public water system may resume monitoring with their test kit once a deviation of the split sample is no greater than 0.04 milligrams per liter. The director may accept an alternate collection frequency and deviation from in-house test kits for split sampling requirements.

2020 Microbiology Laboratory Manual update

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2020 Microbiology Laboratory Manual update

- Added Operational Certification for MMO-MUG tests

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- Added electronic thermometers (Data Logger)

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- Removed MF –Total Coliform/Fecal method

Autoclave Sterility Check

- Autoclave sterility checks are required **once every three months**, per autoclave.
- • If using a biological indicator ampule, follow manufacturer's instructions. **Note:** After sterilization, remove and allow ampules to cool for 10 minutes prior to incubation. Incubate at 55 - 60°C for 24 hours. Growth is evident by a color change per manufacturer's instructions. If color change occurs, corrective action for the autoclave is required.
- • Alternatively, fill an Erlenmeyer flask with 25 to 50 mL of TSB/BHI, inoculate with a known coliform culture, cover flask opening with aluminum foil and incubate at 35 ± 0.5°C for 24 hours. After incubation, when TSB/BHI shows growth, autoclave at 119 - 121°C for 12 to 15 minutes on slow exhaust. Allow to cool to room temperature. Fill a test vessel with approximately 25 mL of TSB/BHI and inoculate the TSB/BHI with the "sterilized" culture from the Erlenmeyer flask. Incubate test vessel at 35 ± 0.5°C for 24 hours. After the 24 hour incubation period, remove the test vessel from the incubator. The inoculated test vessel must not show growth. If growth is present in the inoculated test vessel, corrective action for the autoclave is required.

2019 Laboratory Rules update

- OAC Rule 3745-81-27 will now reference approved methods rather than listing them
- OAC Chapter 3745-89 – adding rules to allow acceptance of Laboratories with alternate certifications (e.g., NELAP)
- <https://www.epa.gov/dwanalyticalmethods/approved-drinking-water-analytical-methods>

Personnel Changes



Cyanotoxin & Cyanobacteria Program update

- Brandy Ott
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Cyanotoxin & Cyanobacteria Program update

- No Changes this year
- Updated SOP's will come out next year
- Surveys will be next year for Certification 5/31/2020

- Keep sending in those Samples
- and remember proper collection protocols

Observations from Surveys

- All laboratory records are to be made with pens

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- Never pipette directly out of a standards bottle

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- Never pipette directly out of a standards bottle
- Always record directly to laboratories official records

Observations from Surveys

Verify Balance prior to use

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Verify Laboratory Water quality

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Verify Laboratory Water quality

Autoclave sterility verification

Observations from Surveys

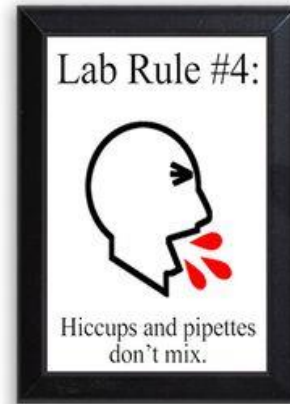
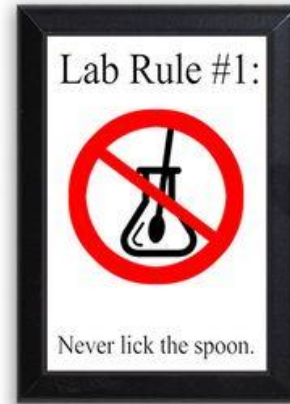
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Autoclave sterility verification

EC-MUG – inverted Durham Tubes are not used

Laboratory Safety update



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