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Micro Lab Hygiene

Environmental drinking water laboratories in the certification program deal with opportunistic pathogens. This necessitates strict adherence to microbiological practices to prevent contamination.

Laboratory bench tops need to be decontaminated before and after analysis as well as after any spill of viable material. Surface decontamination may be accomplished with a commercial laboratory disinfectant solution, a chlorine solution, or an alcohol solution (70% - 90% denatured or non-denatured ethanol or isopropyl alcohol).

Protective laboratory gloves should be worn when working with viable materials if the skin on the hands is broken or a rash is present. Analysts must wash their hands after handling viable materials, test samples, removing gloves, and before leaving the laboratory. If a hand washing sink, with antimicrobial soap, is not present in the immediate area of analysis a waterless instant hand sanitizer must be provided.



Rule Updates Alert !

Several rules that will be of interest to laboratories will be entering the interested party comment period in late 2008 and early 2009. Please sign up to receive email notifications of the request for comments and other rule changes by sending an e-mail to majordomo@lists.epa.state.oh.us and write "subscribe dwrules".

Sneak Preview: Direct reporting of lead and copper results from the lab to Ohio EPA, mandatory electronic reporting deadlines.

Customer Complaints

The AWWA Research Committee is interested in developing a Water Quality Question/Answer handbook specific to problems encountered by water utilities in Ohio. If you have some unusual customer complaints or even some routine ones like "what are those white particles in my aerator or what is the black ring growth in my toilet", the Research Committee would be interested. If you would like to share the complaints and your solutions, please send them to: Jim.Dolfi@epa.state.oh.us. The most interesting ones will be published in future "Pipelines".

Micro Lab Reporting Issues

During a recent meeting with the DDAGW the following reporting issues/concerns were expressed to the laboratory certification section. The laboratory certification staff was informed that if these issues/concerns continue to occur at an individual laboratory **their certification could be impacted.**

1. Sample Submission Reports (SSRs) are Not Complete and Accurate when Received at the District Office.

Laboratories should not accept and analyze samples unless all of the **Public Water System Information** and **Sample Information** is completed by the PWS and/or sample collector. Refer to *Part II Instructions for completing the Microbiological Sample Submission Report (SSR) form* on pages 7 – 10 in the *Laboratory Manual for the Microbiological Analysis of Public Drinking Water*. It is the laboratories responsibility to educate all customers and/or collectors on how to correctly and completely fill out the SSR; and ultimately refuse to analyze samples with **Incomplete Information**. Reviewing the SSR form data at the time of sample receipt may reduce the number of samples that need to be rejected for analysis.

2. SSRs are Not Reported in a Timely Manner.

Total Coliform Negative SSRs are required to be submitted to the appropriate district office no later than the 10th day after the end of the month in which sample analysis was completed.

Total Coliform Positive and Repeat Samples must have their SSRs submitted to the appropriate district office no later than the end of the next business day after sample analysis was completed.

3. Collectors are Not Using Proper Sampling Procedures Resulting in False Positive Total Coliform Results.

It is the laboratories responsibility to educate all customers/collectors on how to correctly collect a total coliform sample. This may be done verbally, in writing, or by demonstration. Refer to *Part III Collection of Microbiological Drinking Water Samples: Total Coliform/Fecal Coliform/E. coli* on pages 10 – 12 in the *Laboratory Manual for the Microbiological Analysis of Public Drinking Water* for guidance. Questions concerning sampling sites and repeat samples should be directed to the corresponding district office.

50% Guy

Laboratory Certification has a new part time survey officer that will be performing micro and chemistry on-site surveys from mid November thru mid May. You may have already met him, his name is Matt Leet. Matt has a BS degree in Microbiology from The Ohio State University. He has been working for the Ohio EPA, DES Laboratory for five years. Please welcome Matt when he comes knocking at your door.

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Stability Testing

Stability tests must be performed slowly and methodically. The Calcium Carbonate must be disturbed as little as possible while the saturated sample is poured onto the filter paper. The Calcium



Carbonate currently is a very fine powder and will pass through a Whatman #4 (25 µm pore) filter paper given the opportunity. We recommend that if your Calcium Carbonate is a very fine powder a less porous filter paper (5 -10µm pore) be acquired for your laboratory. Filter paper of a medium pore size with a ~60ml /min flow for fine particles should be used.

Interpretation of the results of this test must be performed. If the results are inconsistent between the pH and alkalinity results or an unexpected or erratic result is obtained the test must be repeated.

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New ! DDAGW Newsletter

Ohio EPA's Division of Drinking and Ground Waters is publishing the first issue of a new newsletter called "**Spigot News**" this winter. A copy of the newsletter will be sent to every public water system with the 2009 Chemical Monitoring Schedule in mid-December 2008. An insert with tips on proper sampling will be sent to all noncommunity systems and community systems that serve 500 people or less. This "Small Systems Corner" insert is attached. To view the entire Winter 2008 Spigot News issue, go to <http://www.epa.state.oh.us/ddagw/index.htm>.

Sampling Procedures

Sampling conditions, procedures, and practices are one of the most important parts of producing quality data to evaluate the water associated with public drinking water systems. Each test has specific requirements as to how the sample must be collected preserved and shipped. Sampling conditions and procedures should be reviewed by the sampler every time samples are to be collected. Sampling requirements do change occasionally. Commercial laboratories are required to send sampling instructions to their clients and thus all certified laboratories should have instructions available with their sampling kits. If you cannot find your sampling instructions, call the laboratory you use to make sure that you are collecting the sample in compliance with the laboratory's directions.



Ohio Microbiological Water Testing Courses, 2009

→ March 12 & 13, 2009 MMO-MUG

Colilert, Colisure, & C-18
Wauseon Water Plant
Lou Thourot Instructor

→ June 4 & 5, 2009 MMO-MUG

Colilert, Colisure, & C-18
Westerville Water Plant
Daniel Langton Instructor

→ October 14 – 16, 2009 Membrane Filter & MMO-MUG

MF, Colilert, Colisure, & C-18
Dayton Central Water Quality Lab
Tim Truman Instructor

Contact OTCO for registration information and a list of continuing education contact hours at (614) 268-6826.

Sign up early!

Are You Prepared?

On July 1, 2009, the Public Water System (PWS) classification system changes and all classified PWSs will be required to ensure that an appropriately certified operator of record is physically present at the PWS for a minimum staffing time. Hopefully, you are already aware of the changes and how they will affect your facility. For those who are not aware of the changes, this article will provide you with some information about the requirements and Ohio EPA's plan to implement them.

In January 2009, Ohio EPA will send letters to all PWSs that will be classified in accordance with the rule. The letters will explain the new classification of the facility and the associated minimum staffing time. A majority of the facilities with changes to their classifications will be going down in classification. PWSs will have the opportunity to review and comment on their classification. On July 1, 2009, Ohio EPA will send a notice of reclassification to all facilities whose classification changed. Facilities whose classification will remain the same will not receive the July 1, 2009 letter.

Each classified facility must ensure the operator of record is **physically present** at the PWS for the minimum staffing time required in the table below. These minimum staffing requirements are a minimum and do not necessarily indicate the amount of total time a certified operator should be at a facility to ensure compliance.

System Classification	Minimum Staffing Requirement
Class A without treatment	At least 30 minutes per week
Class A with treatment	2 days per week for a minimum of 1 hour per week
Class I	3 days per week for a minimum of 1.5 hours per week
Class II	5 days per week for a minimum of 20 hours per week
Class III and IV	5 days per week for a minimum of 40 hours per week

These changes can be found in Ohio Administrative Code rule 3745-7-03. For more information about the reclassification of facilities or minimum staffing times, feel free to contact Ohio EPA at (614) 644-2752.

Reporting Results to OEPA

With the movement to more direct electronic reporting of sample results to the Ohio EPA database, it becomes even more important to have every data field filled in correctly. Issuing and then rescinding violations, and calling to correct forms, wastes precious time for both Ohio EPA and our certified laboratories, and is frustrating to the public water systems. Here are some important reporting issues that can lead to public water systems receiving monitoring violations if not addressed:

1. **Report Completeness:** It is required by Ohio Administrative Code 3745-89-08 that reports be complete and correct. To this end, the forms and instructions that laboratories provide to their clients should make it easy for the person filling out the paperwork to identify and provide critical sample information. If the public water system and sample information is incomplete, for example a micro sample is submitted without a sample date, sample class or tap address, etc., then the laboratory should contact the water system to obtain the information or the sample **should be rejected**.
2. **Reporting on Time:** Total Coliform positive and repeat samples must be reported by the next business day after the results are obtained, either by fax or electronic mail. All other microbiological results are due at Ohio EPA by the tenth day following the month in which a sample is collected. Results of chemical analyses must be reported by the tenth day following the month in which the chemical analyses are completed.
3. **Sample Location:** We continue to see the sample monitoring point (SMP) either not identified or marked incorrectly. Ohio EPA's drinking water database will create a potential violation if it cannot find a particular result from the correct location. For example, an arsenic result submitted with a distribution SMP (DS000), or no SMP, is ignored for compliance. The address or description of the sample location should be included in the remarks section of the report as provided by the public water system.
4. **Sample Class on Micro Reports:** If the "Repeat" class is marked, then the "Repeat for Sample #" line needs to be completed. If there is any confusion on when a sample should be marked routine, repeat, or special, the appropriate Ohio EPA district office should be contacted for clarification.

5. **Sample Numbers:** Do not use duplicate numbers within a calendar year.
6. **Subcontracting:** If an analysis is subcontracted to another lab, the analytical lab's certification number must appear on the sample submission report.
7. **Unit Conversions:** Be careful when converting units such as milligrams to micrograms. Mistakes are particularly common with cyanide results. Labs should review how conversions are accounted for with any contaminant that an analyst reports in different units than are on the Ohio EPA sample submission report form.

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Tips From The Hood

For those of you that are feeding Potassium Permanganate, this tip's for you. You know how hard it is to get that purple stain off when you spill some KMnO_4 . Try this tip; it comes from Fred Freeman of the Blanchester WTP. Make a 1:1 mixture of 3% Hydrogen peroxide and regular 5% vinegar. Put it in a spray bottle and use it on your hands or the floor. It works!



The Pipeline

Ted Strickland, Governor

Chris Korleski, Director

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