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O&M News, April 2014

Maine Department of Environmental Protection

O&M Newsletter

Maine Department of Environmental Protection sent this bulletin at 04/16/2014 11:09 AM EDT

April 2014

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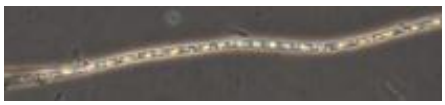
Filament of the Month



Beggiatoa may be common filament in municipal wastewater facilities where there is a high hydrogen sulfide content in the wastewater. This can happen in warmer months in sewers that have low flows and long detention times. Beggiatoa oxidizes hydrogen sulfide (H2S) as an energy source, forming intracellular sulfur droplets that are easily seen with a phase-contrast microscope. The presence of Beggiatoa indicates septic conditions in the sewers causing the presence of hydrogen sulfide.

For Practice

1. The best definition of the word “communication” is:
    a. Talking to others and making your point.
    b. Writing memos and reports.
    c. Transferring information to and from others.
    d. Making sure other people know what you are thinking.
2. How much water is in a 8 inch line 1200 feet long?
    a. 1175 gallons
    b. 2654 gallons
    c. 1539 gallons
    d. 3143 gallons
3. A sample with a pH of 4.5 is
    a. Alkaline
    b. Neutral
    c. Acidic
    d. Basic
4. To improve settling in a clarifier, you should
    a. Decrease the hydraulic detention time in the clarifier
    b. Increase flow to the clarifier
    c. Use mixers to suspend the sludge
    d. Make sure there is a uniform low velocity across the clarifier

Approved Training

* April 23, 2014-in Waterville - Hands On Laboratory Tests - Sponsored by JETCC – Approved for 6 hours

* April 30, 2014 in Norway - Creating an R & R Schedule and Fostering Regional Utility

Collaboration Tests - Sponsored by JETCC – Approved for 6 hours

* May 6, 2014-in Portland - Hands On Laboratory Tests - Sponsored by JETCC – Approved for 6 hours

* May 8, 2014 in Calais - Creating an R & R Schedule and Fostering Regional Utility Collaboration Tests - Sponsored by JETCC – Approved for 6 hours

Note: JETCC stands for Joint Environmental Training Coordinating Committee - P.O. Box 487, Scarborough, ME 04070-0487, Tel: 207-253-8020 – www.jetcc.org

MWUA stands for Maine Water Utilities Association - 150 Capitol Street, Suite 5, Augusta, ME 04330, Tel. 207) 623-9511 - www.mwua.org

MRWA stands for Maine Rural Water Association – 254 Alexander Reed Rd, Richmond, Maine 04357, Tel: 207-737-4092 – www.mainerwa.org

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Wastewater Operator Certification News

The spring wastewater Treatment Plan Operator exam will be given on Wednesday, May 14, 2014. Applications were due in the JETCC office by Friday, March 28, 2014. The fall exam will be given on November 19, 2014. Applications are due in the JETCC Office by October 3, 2014.

Mercury, or Mercury?

Here's a reminder for those of you that are reporting mercury to the Department, for any reason:

When you are running mercury in compliance with your MEPDES permit (typically, once a year), you are required to use EPA method 1631E. This method can be accurate down into the single digits in nanograms per liter (ng/l; nanograms x 1000 = micrograms, micrograms x 1000 = milligrams), with a reporting limit (RL) of about 0.5 ng/l. This information needs to be supplied to the Department on the Maine Department of Environmental Protection **Effluent Mercury Test Report** [DEPLW 0112-B2007]. Make sure you are using the correct units, **ng/l**, when entering your data.

When you are running mercury for Analytical Chemistry, Priority Pollutants, or WET testing analyses, or analyses pertaining to Pretreatment Industrial User Compliance (unless you are deliberately requiring the 1631E method for reasons specific to your Pretreatment program, which you would not be reporting as POTW effluent data anyway), you are required to use EPA method 245. This method cannot measure down into the ng/l range, and it generally has an RL of about 0.2 micrograms per liter (ug/l). This information needs to be supplied to the Department on the Maine Department of Environmental Protection **WET and Chemical Specific Data Report Form** [DEPLW 0740-F2014, revised February 2014] commonly

referred to as the “ToxSheet”. Make sure you are using the correct units, **ug/l**, when entering your data.

BOD Holding Times

Every now and again the Department gets questions about BOD holding times and it is good to revisit this issue. For quite some time the Department’s position has been that BOD samples have a maximum holding time of 24 hours for samples being sent out to a commercial laboratory and a maximum of 6 hours holding time for samples being analyzed in-house (unless specified otherwise by your Permit). These holding times start at the end of the compositing period for a composite sample. **The Department’s position did not change with the recent update to the Code of Federal Regulations (40 CFR).**

The basis of this position comes directly from the BOD method (5210 B, 2001, Editorial Revisions 2011) in Standard Methods. The Method says, “Samples for BOD analysis may degrade significantly during storage between collection and analysis, resulting in low BOD values. Begin analysis within 6 h of collection; when this is not possible because the sampling site is distant from the laboratory, store at or below 4°C and report length and temperature of storage with the results. In no case start analysis more than 24 h after grab sample collection. When samples are to be used for regulatory purposes make every effort to deliver samples for analysis within 6 h of collection". Although this seems pretty straight forward the confusion is introduced when you look at Table II in Part 136 of 40 CFR.

The far right column in that table lists the **maximum** holding times for various wastewater parameters. If you look at the maximum holding time for BOD it is clearly listed as 48 hours. In order to bring clarity to this confusion take the next step and look at footnote 4 below the table.

This footnote says, in part, “Samples should be analyzed as soon as possible after collection. The times listed are the maximum holding times that samples may be held before the start of analysis and still be considered valid. For a composite sample collected with an automated sampler the holding time begins at the time of the end of collection. Some samples may not be stable for the maximum time period given in the table."

The language from both sources infers that BOD samples can degrade over time although they conflict in regards to acceptable holding times.

The Department has exercised its discretion in this matter and determined that when analysis is being done **in-house the 6 hour holding time is appropriate** and when analysis is being done by an **off-site laboratory the 24 hour holding time is the best choice** for ensuring that the most representative data is being submitted by permittees for regulatory purposes.

As noted in past articles, the Department will entertain requests for extending the 24 hour holding time but there must be significant and specific support for granting this request.

Operators will be expected to make every effort to adjust sampling times and/or laboratory choices in order to accommodate the 24 hour holding time requirement. If you are having holding time problems and think you will qualify for an exemption from the 24 hour holding time then please contact your inspector for assistance.

Answers to For Practice:

1. c. Communication is the transfer of information both to you and from you. True communications works both ways.

2. d. The volume of the pipe is 0.785 x (diameter in feet)2 x length in feet x 7.5 gallons/cubic foot → 0.785 x 0.6672 x 0.5 x 1200 x 7.5 = 3,143 gallons.

3. c. Neutral pH is 7.0. Any liquid having a pH less than 7.0 is acidic. Any liquid having a pH greater than 7.0 is alkaline or basic.

4. d. Clarifiers depend on slow, uniform flow to allow the solid particles to settle out of the water before the water leaves the clarifier. Decreasing the detention time, which is usually done by increasing flow, will allow less time for settling. Stirring the clarifier with mixers will resuspend the solids.

DEP Staff Update

Dick Darling will be retiring from the DEP on April 25, 2014.

Dick has been with the DEP for 22 years. As a Senior Environmental Engineer, his primary job has been to provide wastewater dischargers with technical assistance with process control, laboratory procedures, and a variety of other issues; and coordinating the operator certification program in the DEP and in conjunction with JETCC. Dick has also served as long time secretary on the JETCC Board and has served as a JETCC trainer in over 80 classes. He has also taught numerous classes for other training providers and at MWWCA and MRWA conferences. He was also a leading force in the creation of Maine's Management Candidate School and the electronic DMR system. Thank you Dick for all your excellent work over the years and good wishes for a long and happy retirement!

The Department will be conducting a hiring process in the near future to fill this position. Registered Professional Engineers that may be interested in applying can obtain additional information by contacting the NRSC Personnel Office at 287-2214, or by accessing the NRSC website at: http://www.maine.gov/nrsc/jobs/application.shtml . **Applications must be received by 5:00 PM, April 30, 2014.**

Maine Department of Environmental Protection

Questions?
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