



Maine Department of Environmental Protection

Bureau of Land & Water Quality

O&M Newsletter

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A monthly newsletter for wastewater discharge licensees, treatment facility operators, and associated persons

Index

Fall Exam	Page 1
For Practice	Page 1
Website of the Month	Page 1
Answers to For Practice	Page 2



Fall Exam

The Fall Exam for all operator grades will be at the usual locations (Portland, Bangor and Presque Isle) on November 19, 2008. Applications will be due in to the JETCC office by October 3, 2008 or postmarked by Monday September 29.

For Practice

1. Which of the following wastewater characteristics cannot be easily monitored on a continuous basis?
 - a. BOD
 - b. Temperature
 - c. pH
 - d. ORP

2. Part of the required maintenance for capillary or liquid thermometers includes checking for:
 - a. corrosion
 - b. high fluid level
 - c. loose connections
 - d. leaks
3. Before making a final decision, all information pertaining to the situation should be:
 - a. analyzed.
 - b. discussed with everyone in the plant.
 - c. written down on an approved form.
 - d. none of the above.
4. The wastewater treatment process which has a low F:M ratio and a hydraulic detention time of more than 12 hours is called:
 - a. conventional activated sludge.
 - b. contact stabilization.
 - c. extended aeration.
 - d. trickling filter.

Websites of the Month

This is a new regular feature in the O&M News where we will suggest helpful and interesting websites on a variety of wastewater related topics.

<http://www.maineenvironews.com/>

The Maine Environmental News.

A collection of news articles regarding environmental issues in Maine only.

Created in 2000 as a project of the non-profit Maine Environmental Policy

Institute it is edited by volunteer editors and contributors. Visitors can contribute articles and announcements and stay current on the latest environmental news in Maine.

<http://www.standardmethods.org/>
Standard Methods for the Examination of Water and Wastewater. The online site for this comprehensive reference that covers all aspects of water and wastewater analysis techniques. This site includes analytical news, opportunities to subscribe to *Standard Methods* online, a discussion forum, and links to other analytical related sites.

<http://www.umaine.edu/waterresearch/FieldGuide/color.htm#brown>
A Field Guide to Aquatic Phenomena. A very interesting site developed by Maine DEP and the Mitchell Center at the University of Maine. The site describes and includes pictures of a wide variety of aquatic phenomena that can be observed in Maine waters including stuff in the water, the color of the water, stuff along the shoreline, stuff on the surface and winter phenomena.

Brian Kavanah

Answers to *For Practice*:

1. a Temperature, pH and ORP can all be measured accurately with electronic probes that can give instantaneous and continuous readings. BOD requires a laboratory procedure and incubation of the samples for five days.
2. d Capillary thermometers rely on the expansion and contraction of a fixed amount of liquid to display the temperature. If some of the liquid leaks from the device, the readings will be inaccurate.

3. a In the decision making process it is necessary to analyze all available information that affects the decision. It is not always possible or necessary to discuss the information with everyone in the plant. Also, it is not always possible or necessary to write all the information down before making a decision.
4. c Conventional Activated Sludge systems have an F:M ratio of 0.2 to 0.5 and a hydraulic detention time of 4 to 8 hours. Contact Stabilization systems have an F:M ratio of 0.2 to 0.6 and a hydraulic detention time of 0.5 to 1.0 hour. Extended Aeration systems have an F:M ratio of 0.02 to 0.10 and a hydraulic detention time of 18 to 30 hours. Trickling filters are not suspended growth treatment systems and do not have an F M ratio.

