



## Maine Department of Environmental Protection

### Bureau of Land & Water Quality

O&M Newsletter

June 2008

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

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This information is very important to determine Maine's wastewater needs and will be reviewed by Congress in determining infrastructure funding needs around the entire country. This information may also be used to determine Maine's future percentage of available federal funds to be used in the state's SRF loan program.

If you have questions regarding the requirements or procedures or have not received the forms referred to above, please contact me at (207)287-7766 or e-mail me at [david.p.breau@maine.gov](mailto:david.p.breau@maine.gov).

*David Breau*



### Spring Exam

By the time you read this, the Spring 2008 Operator Certification Exam will have been given and the tests will be at ABC for correction. As usual, we'll get the results out to you as soon as possible after we receive them. Good luck to all that took the test! The Fall Exam will be on November 19, 2009. Applications will be due in to the JETCC office in late September.

### 2008 Clean Watershed Needs Survey

**REMINDER:** The May 16<sup>th</sup> deadline for submitting facility 'Fact Sheet' information updates, 'Small Community' needs forms (for communities with less than 10,000 population) or other 'Needs Survey' documentation has come and gone. To date, we have received information from approximately 30% of licensed facilities. If you have not provided updated facility information on the fact sheet yet, please make any necessary updates and return to me by June 27<sup>th</sup>.

## ***For Practice***

1. The purpose of an air-gap device is to:
  - a. Put more oxygen in the waste in sewers to avoid odors
  - b. Lessen vibration in pipes.
  - c. Prevent cross connections between wastewater and potable water.
  - d. Ventilate wet wells at pump stations
  
2. A BOD test was run using three dilutions of the same sample. Which dilution gives the most valid results?

	Sample Volume	Initial DO	Final DO	BOD mg/L
a.	3 mL	8.0 mg/L	6.7 mg/L	130 mg/L
b.	5 mL	7.9 mg/L	4.0 mg/L	234 mg/L
c.	8 mL	8.1 mg/L	0.9 mg/L	270 mg/L
  
3. If the return sludge rate decreases and the influent flow and BOD concentration remain constant, the F/M ratio in the aeration basin will most likely...
  - a. Remain the same
  - b. Increase
  - c. Decrease
  - d. Depend on the air temperature
  
4. If an operator has a stock solution of acid that is 10N and he mixes 20 mL of that acid with 980 mL of distilled water, what will the normality of the resulting solution be?
  - a. 0.8N
  - b. 0.2N
  - c. 8.0N
  - d. 2.0N



## **Websites of the Month**

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

### **<http://www.maine.gov/dep>**

The Maine DEP website. This site contains a variety of information on all of the DEP programs including a substantial amount of information relevant to dischargers such as: applications, reports, laws, rules, policies, contacts, etc. Clicking on “Programs” in the main menu of the site’s homepage will bring you to a list of all of the water program pages.

### **<http://www.jetcc.org/>**

The Joint Environmental Training Coordinating Committee website. Everything you need to know about affordable, high quality training that meets the needs of water pollution control and other environmental professionals throughout the state including: training schedules, directions to the training sites, the wastewater operator certification program, and lots more.

<http://www.sewerhistory.org/>

An interesting site on the history of sewers. The purpose of this website is to house a dynamic collection of materials about the evolutionary development of sewers over the past 5500 years, and to provide a location for the sharing and distribution of information to others. This website is an educational, non-profit endeavor. Its intent is to offer some insight into the history of sewers and the role its operators, engineers, and builders may have played in making our environment, homes and communities better and healthier places to live.

### **Congratulations!**

Congratulations to John Hart, Chief Operator of the Saco Wastewater Treatment Plant. In addition to John's long and distinguished career in the wastewater field that includes service on the Boards of the MWWCA, JETCC, and WEF, John also serves as a Chief Petty Officer in the United States Coast Guard Reserve. John was recently awarded the Coast Guard Commendation Medal for his outstanding work from January 2004 to May 2008 as a Chief Marine Science Technician.

John received this award for his outstanding work in a variety of areas including his stewardship of the Sea Partners Program. The Sea Partners program is a public outreach program that educates the general public in environmental issues and concerns. It focuses on pollution prevention such as oil, non-point source, plastics, sewage and trash. In addition John was recognized for his work in education in the pollution response arena, including investigation, sampling, PPE, record keeping and follow-up as well as general maritime domain awareness & harbor safety.

John, thank you for your service and congratulations on your receipt of this distinguished award!

*Brian Kavanah*

### **Answers to *For Practice*:**

1. c. An air-gap is the only acceptable method to prevent cross-connections between wastewater and potable water.
2. b. In sample A, the depletion of DO in the sample bottle is less than 2.0 mg/L indicating that there was not enough biological activity for a valid test. In sample C, the DO was depleted to less than 1.0 mg/L. There might not have been enough DO available to complete the biological reduction of the organic material in the wastewater.
3. b. The F/M ratio is the ratio of the pounds of food to the pounds of microorganisms. If the flow and BOD concentration coming into the plant remain constant the plant will receive a constant amount of BOD. If the return sludge rate decreases, there will be less sludge for the same amount of food. Thus, the F/M ratio increases
4. b. The normality of the final solution is given by  $(\text{Volume of Acid} \times \text{Normality of Acid}) / \text{Total Volume}$   
 $\text{Normality of Solution} = (20 \text{ mL} \times 10\text{N}) / (20\text{mL} + 980\text{mL}) = 0.2\text{N}$