Department of
Environmental Protection
Bureau of Land & Water Quality Dec. 1999

O&M Newsletter

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

Fall 1999 Exam

The fall exams have been sent to ABC for correcting and the results should be back before the holidays. We'll let you know as soon as we have the results.

UPCOMING TRAINING COURSES

December 9, 1999 in Waterville, ME, Troubleshooting Aerated Lagoons – approved for 5.0 hours, sponsored by NEIETC (978) 323-7929.
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December 9, 1999 in Brunswick, ME, One Plan – Integrated Contingency Planning - approved for 6.0 hours, sponsored by Maine Rural Water (207) 729-6569.
*****
December 16, 1999 in Augusta, ME, Ambient Water Quality Sampling & Biomonitoring – approved for 6 hours, sponsored by JETCC (207) 767-2649
*****
December 14 & 15, 1999 in Freeport, ME, Maine Rural Water Association Annual Meeting – various sessions approved for a total of 7.25 hours, sponsored by Maine Rural Water (207) 729-6569.

For Practice

1. The term mL (milliliter) in the expression mL/L is a measure of

   a. Volume
   b. Length
   c. Mass
   d. Area

2. The total copper in the effluent from a printed circuit manufacturer is measured daily. The following are the results from eight (8) days of measurements. What is the highest consecutive four (4) day average that occurred during this period?

Day	Copper in mg/L
1	6.7
2	5.2
3	6.4
4	5.8
5	6.2
6	6.6
7	6.8
8	6.5

   a. 6.3 mg/L
   b. 6.5 mg/l
   c. 6.6 mg/L
   d. 6.9 mg/L

3. In some industries, chemicals are added to certain processes as complexing agents to tie up or complex certain metals. The function of the complexing agents is to:

    a. Buffer the solution to a pH of 7.0
    b. Enhance settling when the pH is raised.
    c. Reduce the volume of sludge created in the process
    d. Prevent the metals from forming insoluble compounds and falling out of the solution as a precipitate.

4. Ozone is an unstable, active form of

    a. Oxygen
    b. Nitrogen
    c. Hydrogen
    d. A Mixture of several gasses

MERCURY SAMPLING & ANALYSIS

Certified Labs and Equipment Suppliers

The Department of Environmental Protection has changed the method for analyzing waste water effluent for total mercury from EPA Method 245.1 to EPA Method 1631. System operators will have to utilize the services of laboratories that are certified to analyze samples according to this new method. In addition, this new laboratory method calls for the samples to be collected using EPA Method 1669, also known as "clean techniques". This will require the operators to purchase some new equipment; a sampling device of some type depending on your sample point, non-talc gloves, and tyvek suits.

Recently, I have received numerous inquiries concerning certified laboratories and equipment suppliers. I have compiled a partial list of laboratories and equipment suppliers for your convienence. . The laboratory you are currently utilizing may be able to arrange for your sample to be analyzed by one of the certified laboratories. If not, you can choose from the list below.

If you have any questions, please feel free to contact me at 287-4868.

Thank you,
Sterling Pierce
Maine DEP

Laboratory Listing

Axis Environmental Systems
Sydney, BC
Contact: Mary McFarland
604-656-0881

Frontier Geosciences
Seattle, WA
Contact: Ed Gieger
206-622-6960

Battelle / Marine Sciences
Sequim, WA
Contact: Eric Crecelius
360-683-4151

University of Maine, Orono
Orono, ME
Contact: Mike Handley
207-581-3243

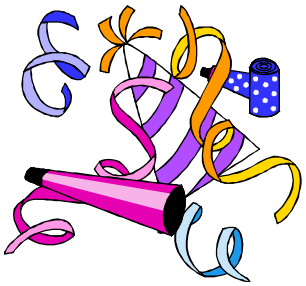
Brooks – Rand
Seattle, WA
Contact: Colin Davis
206-632-6206

Safety Equipment Suppliers

Lab Safety Supply
P.O. Box 1368
Janesville, WI 53547-1368
1-800-356-0783 phone
www.labsafety.com

Ben Meadows
P.O. Box 80549
Atlanta, GA 30366
1-800-241-6401 phone
www.benmeadows.com

Direct Safety Company
2005 West 14th Street
Tempe, AZ 85281
1-602-968-7009 phone



Answers to *For Practice:*

1. c. The term *mL* or *milliliters* is a measure of volume. 1 milliliter equals 1/1000 liters.

2. b. The highest average for a consecutive four day period is for the last four days=
   Average = (6.2 + 6.6 + 6.8 + 6.5)/4 = 6.525

3. d. Complexing agents are added to keep metals in the solution for manufacturing purposes. The prevent the metals from reacting with other chemical to form insoluble precipitates.

4. c. Ozone is a molecule comprised of three Oxygen atoms. It is very active and quickly changes to the more common O_2 Oxygen Molecule.

Happy Holidays!!!!!