

# Surface Water Treatment: Jar Testing for Operators Helena

February 8, 2012

## Course Instructors:

**Michael Boyd, Midwest Assistance Program,** has more than 15 years of experience in operation, maintenance and inspection of public water systems with extensive work in an advisory and regulatory capacity with many water operators, village boards, and city councils. He is a certified investigator/inspector and licensed Grade 1 operator. Michael works for MAP and assists operators in setup of new and existing water treatment facilities including surface water, iron and manganese removal, lime softening systems and ion-exchange treatment. He regularly conducts workshops and training events on numerous water system issues including sanitary surveys, operator certification, water treatment, emergency planning, operations and maintenance, safety, chemical injection and backflow. Michael also conducts numerous water system assessments, sanitary surveys, source water assessments, and related technical troubleshooting.

**Jason Fladland, Helena Water Plant Superintendent.**



Montana Environmental Training Center  
MSU-Northern  
P.O. Box 7751  
Havre, MT 59501

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The Montana Environmental  
Training Center

*Presents*

# Surface Water Treatment: Jar Testing for Operators Helena

February 8, 2012



Water operators and managers and others interested in surface water treatment are invited to attend. Learn how to run jar tests and what results mean.



# Surface Water Treatment

Helena  
February 8, 2012

**WHERE:** UM - Helena College of Technology  
1115 North Roberts St.

**COURSE FEE: \$110 - Note:** Course may be cancelled unless 10 people preregister by February 1, 2012. So, please register early.

## AGENDA

### Wednesday, February 8, 2012

7:30 - 8:00 am **Registration** (Helena College of Technology)

8:00 - 8:15 **Introductions & Pretest**

8:15 - 9:15 **Overview—Written Formulas and Basic Calculations**

- Definitions and CT Calculations
- How to Use a Formula - The Basic of Mathematics
- Area/Volume and Dosage Calculations

9:15 - 9:45 **Plant/Treatment Train Inspection**

- Detention Time Review and Figure
- Flash Mixing RPM and CT
- Measurement of Filter Bed Area and GPM

9:45 - 10:00 **Break** - Travel to Helena 10 Mile Water Plant

10:00 - 12:00 **On-Site Tour of Surface Water Treatment Plant**

12:00 - 1:00 pm **Lunch** (On Your Own)

### **Return to Helena 10 Mile Water Plant**

1:00 - 1:45 **Introduction to Jar Test Equipment**

- How to Use Jar Testing Equipment
- Pipette Usage and Measurement
- Proper Chemical Handling and Safety

1:45 - 2:15 **Preparing Equipment**

- Mixing Stock Solution
- Adjusting/Calculating Mixing and Timing
- pH, Chlorine, and Baseline Influent Measurement

2:15 - 3:45 **Jar Testing**

- Proper Chemical Addition
- Mixing and Timing Adjustment
- "Bracketing" of Jar Test Mixtures

3:45 - 4:45 **Analysis of Flocculation and Settling**

- Review Results
- Adjustment of Treatment Chemical
- Recordkeeping

4:45 - 5:00 **Review and Evaluation**

- Putting It All Together

## REGISTRATION FORM

**PREREGISTRATION:** Please preregister as METC must have at least 10 people preregistered for this course in order to avoid cancellation. **Complete and return this form by Wednesday, February 1, 2012.**

A cancelled registration after February 1, 2012 will be refunded at 50%. You may call Barb Coffman at 781-2298 (cell phone) for further information.

### **Send Payment to:**

**Attention: Barb Coffman**

**METC**

**MSU-Northern**

**P. O. Box 7751**

**Havre, MT 59501 or Fax to 753-2378**

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ST \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_

EMPLOYER \_\_\_\_\_

E-MAIL \_\_\_\_\_

### **Indicate Amount & Method of Payment**

Amount \$ \_\_\_\_\_

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