Collecting and Handling of Water Samples for Trace Metal Analysis
Sampling for Trace Metals using "Clean Hands/Dirty Hands" Method

Course ID: CHEM-305 (1 day)
June 27, 2008, 9:00 A.M. to 5:00 P.M.
Corinthian Yacht Club of Seattle
7755 Seaview Ave NW :: Seattle, WA

Instructor: Amanda Fawley, Brooks Rand Labs

Description: The following sampling course is designed for anyone collecting ambient water samples for low-level total and dissolved trace metals. This one-day course will include a half-day in the classroom with lectures covering the circumstances in which low-level detection limits would be desired or required, potential routes of metals contamination, necessary sampling supplies, various sampling techniques, proper handling and preservation of samples, and field quality assurance sample collection requirements. The second half of the day, students will engage in hands-on field exercises, where they will be given the opportunity to practice several surface water sampling protocols using various sample collection methods and following the "Clean Hands/Dirty Hands" sampling techniques.

Course Topics:

Overview of the Importance of Trace Metal Detection Limits
A brief discussion regarding the requirements of the Clean Water Act, EPA Methods 1669 and 1631, and the need for low-level detection limits.

EPA Analytical Methods and Preservation Requirements
The instructor will go over various EPA Analytical Methods (1600-series) available for trace metals analysis. Instruction will also be provided for proper handling and preservation of samples prior to or immediately following laboratory receipt.

Potential Sources of Contamination
Participants will gain an understanding of different sources of contamination or interferences that can cause problems with trace metals analysis and ways to avoid contamination.

Sample Considerations
In order to obtain credible and scientifically defensible data, sampling considerations will be discussed in order to determine the most appropriate sampling sites and sample collection techniques.

Sampling Supplies and Equipment
We will go over the correct equipment and supplies that MUST be used in order to successfully collect a water sample for trace-level metals analysis. Surface and subsurface sampling supplies will be discussed, including equipment needed for proper field filtration.

Sampling Techniques
The instructors will go over EPA Method 1669 "Clean Hands/Dirty Hands" for several different sampling methods.
**Intended Audience:** Anyone interested in sampling or submitting samples for trace metals analysis.  **This class size is limited to 25 people in order to provide quality field training.**

**Prerequisites:** None

**About the Instructor:** Amanda Fawley joined Brooks Rand Labs in 2006 bringing her extensive environmental and project management experience to the company. Prior to joining Brooks Rand Labs, she worked for the Arizona Department of Environmental Quality from 1998 to 2006 where she was most recently a project manager in charge of mercury TMDL studies. Ms. Fawley has extensive experience in field sampling for trace metals and project management. Since joining Brooks Rand Labs, she has rapidly gained more detailed knowledge in the laboratory handling and analytical procedures necessary to ensure good quality data.

**Course Materials:** Attendees will receive a binder containing workshop proceedings and reference material.

**Continuing Education Units:** 0.7

**Important:** First part of the class, 9:00 A.M.-12:00 P.M. will be spent at the **Corinthian Yacht Club of Seattle** (7755 Seaview Ave NW), after lunch on your own we will be meeting at **1:00 P.M. at the Seaview West Boatyard** (6701 Seaview Ave. N.W., Seattle, WA 98117) which is 0.6 miles away from the Yacht Club, we advise that you bring a sunscreen. Pen or pencil, notepad, coffee mug, and a water bottle (to reduce waste). Please wear comfortable clothes appropriate for the prevailing weather. Coffee, tea, breakfast pasties, drinks and snacks will be provided.

**Registration:** $295 (*$250 reduced tuition is available for Native American tribes; government employees; nonprofits; students; and NAEP, NEBC, NWAEP members). You may register via the link below or by calling the Northwest Environmental Training Center at 206-762-1976.

**Cancellation Policy:** Registration fees are fully refundable up to 30 days prior to the event and 50 percent refundable (or 100% credit) thereafter up to 3 business days prior to the event. No refunds are issued for cancellations occurring less than 3 business days before the start day. You may register via the registration link or by calling the Northwest Environmental Training Center at 206-762-1976.
Accommodations near:  
**Corinthian Yacht Club of Seattle**  
7755 Seaview Ave NW  
Seattle, WA 98117

<table>
<thead>
<tr>
<th>Hotel Name</th>
<th>Address</th>
<th>Phone</th>
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<tbody>
<tr>
<td><strong>Starlight Hotel</strong></td>
<td>5300 Ballard Ave NW</td>
<td>(206) 784-8304</td>
</tr>
<tr>
<td><strong>Watertown Hotel</strong></td>
<td>4242 Roosevelt Way NE</td>
<td>(206) 826-4242</td>
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<tr>
<td><strong>Travelodge Seattle - North Aurora</strong></td>
<td>8512 Aurora Ave N</td>
<td>(206) 522-5000</td>
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<tr>
<td><strong>Greenlake Guest House</strong></td>
<td>7630 E Green Lake Dr N</td>
<td>(866) 355-8700</td>
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<tr>
<td><strong>Hotel Nexus Seattle</strong></td>
<td>2140 N Northgate Way</td>
<td>(206) 365-0700</td>
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<tr>
<td><strong>Everspring Inn</strong></td>
<td>8201 Aurora Ave N</td>
<td>(206) 789-1888</td>
</tr>
<tr>
<td><strong>Holiday Inn Express Hotel &amp; Suites Seattle (Northgate Mall Area)</strong></td>
<td>14115 Aurora Avenue North</td>
<td>(877) 863-4780</td>
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<tr>
<td><strong>Dibble House</strong></td>
<td>7301 Dibble Ave NW</td>
<td>(206) 783-0320</td>
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Directions to:

**Corinthian Yacht Club of Seattle**
7755 Seaview Ave NW
Seattle, WA 98117

**DRIVING FROM Seattle-Tacoma International Airport (SEA)**

Merge onto WA-518 E via the ramp to I-405/I-5/Seattle/Tacoma
Take the exit on the left onto I-5 N toward Seattle
Take exit 172 onto N 85th St. Toward Aurora Ave N
Turn right at 32nd Ave NW/ Loyal Way NW
Continue on Golden Gardens Dr NW
Turn left at Seaview Pl NW
Turn left at Seaview Ave NW

**DRIVING FROM Points North, via I-5 S**

Take exit 172 to merge onto N 85th St
Turn right at 32nd Ave NW/ Loyal Way NW
Continue on Golden Gardens Dr NW
Turn left at Seaview Pl NW
Turn left at Seaview Ave NW

**DRIVING FROM Points South, via I-5 N**

Take exit 172 onto N 85th St. Toward Aurora Ave N
Turn right at 32nd Ave NW/ Loyal Way NW
Continue on Golden Gardens Dr NW
Turn left at Seaview Pl NW
Turn left at Seaview Ave NW

**DRIVING FROM Points East, via I-90 W**

Take exit 172 onto N 85th St. Toward Aurora Ave N
Turn right at 32nd Ave NW/ Loyal Way NW
Continue on Golden Gardens Dr NW
Turn left at Seaview Pl NW
Turn left at Seaview Ave NW

**MAPS:**
REGISTRATION FORM

Name: ___________________________ Today’s Date: ______________

Agency/Organization: ___________________________

Street Address: ___________________________

Street Address (cont’d): ___________________________

City: ___________ State: ___________ Zip: ___________

Phone: __________________ Fax: __________________

Email: __________________ Title: ___________

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Corinthian Yacht Club 7755 Seaview Ave NW
Seattle, WA 98117
Registration: $295 ($250*)

*Reduced rates for Native American Tribes; nonprofits; government; students; and AFS, NEBC, NAEP, RMAEP members.

Payment Method: Check □  PO □  Credit Card (Visa/Mastercard) □  Total: $_______________

Credit Card or PO #: ___________________________ Exp: ___________

Notes: Please make checks payable to Northwest Environmental Training Center.

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