Bioassay Sample Log-In Procedure

1. SCOPE AND APPLICATION

1.1. This method is used to document the receipt and the physical-chemical characteristics of bioassay samples received in the Toxicity laboratory.

2. SUMMARY OF METHOD

2.1. The transfer of bioassay samples from the Laboratory Receiving room to the Toxicity lab is documented on the chain of custody form (sample submittal form). Bioassay sample collection and receipt information is logged into the *Bioassay Sample Log-in* logbook. Physical-chemical parameters are measured on an aliquot of the bioassay sample. The results of these measurements are entered into the *Bioassay Sample Log-in* logbook and LIMS logbook. Labels are applied to the sample containers. The LIMS Custody module is used to track sample custody.

3. EQUIPMENT AND SUPPLIES

3.1. YSI MultiLab 4010-1 (SOP TA-06.44)

3.2. Fisherbrand Traceable Bench Conductivity Meter (SOP TA-06.36)

3.3. Beaker or specimen cups (standup parameters)

3.4. 30 mL disposable plastic cups (sit-down parameters)

3.5. 60 µm mesh to filter sample

3.6. Plastic funnel

3.7. 6 L autoclaved Erlenmeyer flask to hold effluent sample

3.8. Digital thermometer (SOP TA-06.13)

3.9. Fisherbrand Accumet AB315 pH/mV Meter (SOP TA-06.43)

3.10. Hach Pocket Colorimeter II Test Kit for Total Residual Chlorine (SOP TA-06.22)

3.11. Hach Ammonia Nitrogen Pocket Colorimeter II Test Kit (SOP TA-06.35)

3.12. Titration Kits and Reagents for Alkalinity and Hardness (SOP TA-06.08)

3.13. Bucket or plastic Carolina dish for water bath

3.14. Black, waterproof pen

3.15. Computer with access to the Laboratory Information Management System (LIMS)

3.16. *Bioassay Sample Log-in* logbook

3.17. *Parameter Check* Logbook

The OFFICIAL COPY is the on-line version. All other copies are considered unofficial and uncontrolled.

3.18. *Bioassay Bench Sheets* logbooks

4. REAGENTS AND STANDARDS

4.1. Aliquot of bioassay sample

5. METHOD

5.1. Sample Receipt

5.1.1. Sign and add the date and time to the chain of custody form (sample submittal form) when picking up a sample from the Receiving Room. Scan the employee badge of the Receiving Room staff that transfers the sample.

5.1.2. Record the following in *Bioassay Sample Log-in* logbook:

5.1.2.1. Facility name

5.1.2.2. LIMS Job number and LIMS Sample ID (both are usually obtained the day after the sample is received in the bioassay lab). Use the RQ on the sample bottle to search LIMS Browser for the Job and Sample IDs. See 5.2.1 for additional information. (It can be helpful to record the RQ number in the comment box for easy lookup the next day.)

5.1.3. Record the time and date the sample was collected.

5.1.4. Record the date and time sample was received in the Toxicity lab.

5.1.5. Record the name of the biology staff member who picked up the sample from the Receiving Room.

5.1.6. Transfer and filter (using a funnel and 60µm screen) an aliquot of sample going to be used the same day into an appropriate flask (use a 6L flask) and place in a warm water bath (bucket). Use a thermometer to keep an eye on the temperature fluctuation. Allow the sample to warm to the appropriate test temperature (usually 25 ±1 °C). Place the rest of the sample set into the walk-in refrigerator until needed.

5.1.7. Pour an aliquot of sample into a 30 mL cup and do a preliminary DO check (before filtering and warming). If the DO is less than 4.0 mg/L or greater than 9.0 mg/L, aerate the entire sample to as near saturation as practical prior to test initiation.

5.1.7.1. Be sure to record the length of time the sample aerated for and the initial and final DO in the appropriate Bioassay Bench Sheet Logbook.

The OFFICIAL COPY is the on-line version. All other copies are considered unofficial and uncontrolled.

5.1.8. After warming (and aeration, if necessary), pour ~150 mL of the sample into a specimen cup and measure the temperature, DO, pH, conductivity, salinity, chlorine, ammonia, alkalinity, and hardness. If chlorine is measured to be >0.1 mg/L, dechlorinate the sample according to SOP TA-09.18.

5.1.8.1. Record temperature, DO, pH, conductivity and salinity in the Bioassay Sample Log-in book and LIMS (per SOP TA-06.42). Record chlorine, ammonia, alkalinity, and hardness in their respective logbooks (Bioassay Bench Sheets Logbooks and Parameter Check Logbook) and LIMS logbook.

5.2. Sample Label Receipt

5.2.1. Biology staff can get sample labels from the Biology Box in the Receiving Room. Request that the receiving room staff print a label (containing identical information) for each bioassay sample container from the same facility. These can also be found by using LIMS browser.

5.2.1.1. This step is generally not done. If we want/need labels we print them ourselves.

5.2.2. Record Sample ID and Job numbers from the Sample Label in the Bioassay Sample Log-in book and on the appropriate bioassay bench sheets. Place one label on each of the sample containers.

5.2.3. Review field sheet. Verify the date and time of sample collection.

5.2.3.1. Field sheets are scanned by Receiving Staff in the folder \\floridadep\data\DEAR\Labs\Receiving and saved by Event ID.

5.2.4. Verify that all samples are listed on field sheets.

5.2.5. Verify that all samples have a LIMS sample ID assigned. Write the LIMS sample ID on the bench sheet.

5.2.6. Verify that all samples received have the correct analysis requested, are logged into LIMS, and have the correct field ID. Notify Receiving Room staff if corrections are needed.

5.2.7. Verify that all samples have a sample date and time listed.

5.2.7.1. Make sure the sample date/time is the end date/time it was collected if it was a composite sample. Record sample date/time in the Bioassay Sample Log-in book.

5.3. Sample Disposal

5.3.1. When a sample is depleted or a test is completed then discard sample in LIMS backlog.

The OFFICIAL COPY is the on-line version. All other copies are considered unofficial and uncontrolled.

5.3.1.1. Check the backlog if the test is completed. In LIMS go to Laboratory> Receiving>Custody. Click on “Reports” and select “Discard list”. For location choose “BIOLOGY” and for Analysis Group choose “Bio-Toxicology” and click ok. If the sample is there then it can be discarded but if it doesn’t show up then the sample can’t be discarded yet.

5.3.2. Once sample is discarded, dump sample down the drain and triple rinse the sample containers with tap water and throw them away in the recycling bin.

6. DATA ARCHIVAL

6.1. Use a black, waterproof pen for all bench sheets and logbooks.

6.2. To correct raw data entries, place a single line through the incorrect or illegible entry, write the corrected entry near the error, date and initial the correction. Do not overwrite entries.

6.2.1. The corrected entry is written as near as possible to the error or in the comment box on the appropriate bench sheet.

6.2.2. If the correction requires an explanation, write a comment and reference the error with a letter. Initial and date the explanation. Do not attempt to put all information (correction and comments) into a small space.

6.2.3. Use sequential alphabetical annotation to identify errors and corresponding comments (use A for first error and use A for corresponding explanatory comment; use B for second error, etc.).

7. QUALITY CONTROL

7.1. Refer to DEP Laboratory Quality Assurance Manual for corrective action and handling out-of-control data.

7.2. Due to the short-hold time of the bioassay samples, initial sample custody by Biology staff begins when the samples are transferred to Biology staff and noting the number of bioassay sample jugs taken. Samples are taken directly to the lab for preparation. Excess sample and/or sample containers are placed in the walk-in refrigerator in Room B227.

8. SAFETY/HAZARDOUS WASTE MANAGEMENT

8.1. Proper laboratory protection, including lab hood or ventilation system, lab coat, gloves and safety glasses, is required when working with chemicals and unprocessed samples.

8.2. Refer to DEP Laboratory Quality Assurance Manual for sample disposal.

The OFFICIAL COPY is the on-line version. All other copies are considered unofficial and uncontrolled.

8.3. Refer to the Laboratory Health and Safety Manual and Hazardous Waste Management Plan.

9. REFERENCES

9.1. DEP SOP TA-06.08, *Measuring Total Alkalinity and Hardness*

9.2. DEP SOP TA-06.13, *Thermometer Accuracy Check and Use*

9.3. DEP SOP TA-06.22, *Measuring Total Residual Chlorine using the Hach Pocket Colorimeter and Colorimeter II Test Kits*

9.4. DEP SOP TA-06.35, *Measuring Total Ammonia using the Hach Ammonia Nitrogen Pocket Colorimeter II Test Kit*

9.5. DEP SOP TA-06.36, *Calibration and Use of the Fisherbrand Traceable™ Bench Conductivity Meter for Conductivity and Salinity*

9.6. DEP SOP TA-06.44, YSI MultiLab 4010-1 Meter Calibration and YSI IDS ProOBOD DO Probe Maintenance

9.7. DEP SOP TA-06.43, *Calibration and Use of Fisherbrand accumet AB315 pH/mV Meter*

9.8. DEP SOP TA-09.18, *Dechlorination Procedure using Sodium Thiosulfate*

9.9. DEP SOP TA-06.42, *LIMS Entry for Laboratory Parameters*

9.10. DEP Health and Safety Manual

9.11. Laboratory Quality Assurance Manual

APPENDIX OF SIGNIFICANT CHANGES

The OFFICIAL COPY is the on-line version. All other copies are considered unofficial and uncontrolled.