Routine Limno Lab Procedures – 2008

Upon return from the field:

- One person cleans the zoop net and starts running pH (see pH procedure) while the other person starts running the GC (see GC procedures)
- Once the zoop net is clean and pH is running, that person helps the GC person to fill the syringes.
- When syringes are filled, then one person takes the water samples and begins filtering for chlorophyll and POC (see below).

Chlorophyll filtering:

Filter water samples from each of the 6 light-depths onto a 47 mm GF/F filter.

1. Filters have a grid side and a "smooth" side. Place filter grid side down (grid to grid) and smooth side up.

2. Shake sample bottle well before filtering. Rinse graduated cylinder 3 times with sample before using.

3. For each depth, filter enough water so there is a faint color on the filter (typically around 200 mL, check previous weeks data and adjust as necessary). Record the volume filtered on chl data sheet. Make sure you filter at less than 200 mm Hg pressure.

4. Rinse filter towers and filters with DI water, place filters in labeled film canisters and place in freezer. Labels should include lake and depth ID.

POC, DOC, and Color:

Filter water samples from PML, meta, and hypo onto ashed 25mm GF/F filters and save filtrate for DOC and color samples.

1. Place a 25mm ashed GF/F filter into a filter holder (grid to grid) that is attached to a Erlenmeyer flask.

2. Pour 100-300 ml of sample from each depth (PML, meta, hypo) through 153 um mesh, to remove large zooplankton, and into the filter holder. (Typically ~200mL for PML, 150 meta, 75-100 hypo – check previous week and adjust as necessary)

3. Filter at less than 200 mm Hg pressure. Remove filters from towers, fold in half, and place two replicates in one labeled Petri dish. Be sure to indicate volume of water filtered on Petri dish and record it in the POC log. Place dish in drying oven with the cover on loosely.

4. Each week, make 1 blank filters by filtering 200mL of DI and process as above.

5. Pour 20 mL of filtrate from each lake-depth into labeled, acid washed, glass scintillation vials and acidify with 200 uL 2N H_2SO_4. Prepare two replicate samples for each depth. Each week, make one blank sample using 20ml of DI (filtrate from blank POC sample) and 200uL 2N H_2SO_4.

6. Fill a 60 mL HDPE bottle with filtrate from each lake-depth. Store in refrigerator until it is convenient to analyze samples on a spectrophotometer.

Miscellaneous:

TN/TP sample:

- Rinse a 125mL Nalgene bottle with PML water 3 times
- Fill the bottle with 100mL of PML water
- Add 1mL of 1N H_2SO_4 (Optima)
- Label bottle with TN/TP, Lake, Date, and PML.

Preserved phytoplankton sample:

- Rinse a 250mL amber Nalgene bottle with sample PML water 3 times.
- Fill the bottle with PML water (until about the shoulder)
- Add 3 squirts of Lugols to the bottle.
- Label the bottle with “Preserved Phytos in Lugols”, Lake, Date, and PML.

pH

- while doing the above procedures, keep track of the pH samples.
- When done, record the pH value into the Limno binder.