

CONDENSED LABORATORY PROCEDURES

Items needed for sample processing:

- Data Sheet from the Field Notebook and a pencil (no pens please)
- 250 ml graduated cylinder and a 500 ml cylinder (if doing TSS filters)
- receiving flask (side-arm variety)
- filter funnel assembly (filter base and funnel)
- hand vacuum pump with hose
- chlorophyll filters and TSS filters (if you are processing for TSS)
- plastic nutrient bottles
- water-proof marker
- tweezers
- disposable eyedroppers
- stapler with extra staples
- filter storage can with drying desiccant

Procedures

Nutrient Bottle

- 1) Using the **water-proof marker**, fill in the required information on a nutrient bottle.
- 2) **Shake the Sample Bottle** vigorously to make sure the water is well mixed.
- 3) **Rinse the nutrient bottle twice** with lake water and then fill to the line. Check off on the Data Sheet.

Chlorophyll Filters

- 4) Set-up the filter apparatus by placing the black stopper of the filter funnel base into the receiving flask. Attach the hand pump hose to the side of the receiving flask.
- 5) Using the tweezers place a chlorophyll filter on the base of the filter funnel (**smooth side down**). Put the funnel portion of the filter funnel assembly straight down on top of the filter base making sure you don't knock the filter off center. Also make sure that there is not a gap between the funnel and base if using a clamp model.
- 6) **Shake the sample bottle** vigorously and pour out 250 ml into the graduated cylinder. Use the plastic eyedropper to get precise measurement.
- 7) Pour water into the funnel and work hand pump to create a vacuum.
- 8) Fill out appropriate information on the filter house and Data Sheet.
- 9) Remove the filter funnel, open the filter house and using the tweezers place chlorophyll filter in the center of filter house. Fold sides and top, staple and place in the container with loose desiccant.
- 10) Repeat steps 5 - 9 for second chlorophyll filter.

TSS Filters

- 11) Dump the water out of the receiving flask.
- 12) Put the filter apparatus back together.
- 13) Using the tweezers place a TSS filter on the base of the filter funnel.
Remember that there is no real smooth side and that this filter is a little smaller so be **extra careful to center it**.
- 14) **Shake the sample bottle** vigorously and pour out 500 ml into the graduated cylinder. Use the plastic eyedroppers to get precise measurements.
- 15) Pour about half the water into the filter funnel and start to work the hand-pump. When most of the water has past through the filter, swirl the remaining water in the cylinder and pour it into the filter funnel.
- 16) Fill out the appropriate information on the Data Sheet and on the filter house if necessary.
- 17) Remove the filter funnel, open the filter house and using the tweezers place TSS filter in the center of filter house. Fold sides and top, staple and place in the container with loose desiccant.
- 18) Repeat steps 11 - 17 for second TSS filter.

Clean Up

- 19) Make sure you have complete all filters and the nutrient bottle before dumping the sample bottle out.
- 20) Rinse out the sample bottle, graduated cylinders, receiving flask and filter funnel assembly with tap water. **No soap or detergent**.
- 21) Let the equipment air dry before replacing any aluminum foil lids and placing back into the storage box.
- 22) Make sure you have filled in all needed information on the Data Sheet including the time spent on the program.

REMEMBER:

- Always shake the sample bottle before pouring water out for nutrient bottles or filters
- Use tweezers to handle the filters
- Process two chlorophyll filters and, if doing TSS, two TSS filters for each sample
- Fill out all of the required information on the filter houses and the Data Sheets
- Make sure that the filters are folded in half when placed back in the filter house
- Store all filters and nutrient bottles in the freezer until picked-up by LMVP staff

CONDENSED FIELD PROCEDURES

Equipment needed in the field:

- anchor
- field notebook with Data Sheets and pencil
- Secchi disk with a pre-marked rope or clothes pins and tape measure
- a sample bottle for each site being sampled
- plastic bucket
- thermometer
- cooler with ice or ice-pack

Procedures:

- 1) Unless it is calm, anchor boat to limit drift.
- 2) Fill out top of Data Sheet.
- 3) Circle the terms that you feel best describes the sky and wave conditions.
- 4) Take water temperature of the lake by placing the thermometer just below the surface of the lake. If you are using a digital thermometer make sure that it is switched to Fahrenheit and not Celsius. Also make sure it is set for outdoor and not indoor reading. Let the thermometer stay in the water for at least two minutes to allow it to stabilize. Record reading on Data Sheet.
- 5) Secure the end of the Secchi rope to the boat and take Secchi reading from the shaded side of the boat. Record reading on Data Sheet.
- 6) **Rinse out the sample bottle and the bucket twice with lake water.** Take water samples from three different areas around the boat. Pour each into the bucket. Make sure the bucket of water is well mixed and then refill the sample bottle from the bucket. Store sample bottle in a cooler with an ice-pack.

REMEMBER:

- Take the Secchi reading from the shaded side of the boat
- Rinse out sample bottle and bucket to avoid contamination of the sample
- Keep the sample cool and in the dark until you are able to process