

## Submitting Water Samples to the LTER Water Chem Lab

This protocol is required for all samples that are not a part of the Core NTL Monitoring program (i.e., 'base crew'). Even if your samples are under the NTL LTER umbrella of research, if they are not a part of the core monitoring program the following guidelines apply. **You must have:**

1. **Permission from Grace Wilkinson ([gwilkinson@wisc.edu](mailto:gwilkinson@wisc.edu)) to submit samples to the LTER Water Chemistry Lab.** We are not a fee-for-service laboratory and need to balance the needs and obligations of the core NTL monitoring program, LTER graduate student projects, and other commitments. In your conversation with Grace, you will determine:
  - a. If assistance with sample preparation or analysis is required from the submitter
  - b. A reasonable timeframe for analysis turnaround to help you plan your research.
  - c. Understanding if you will need to compensate the lab for any supplies or personnel time based on sample analysis volume requested.
2. **A spreadsheet with a column of Sample IDs, tests requested, location of samples, and preservation method (at minimum).** If multiple bottle/vial types are submitted with the same Sample ID, please indicate on spreadsheet.
  - a. Sample IDs, whether generated by you or ChemLab **MUST** contain an informative event name to people outside your project. The sample date (e.g., "Week 1") is not informative and the samples will not be accepted by the lab.
  - b. Email this file with notice of sample submission and tests requested to [sustachek@wisc.edu](mailto:sustachek@wisc.edu) and [gwilkinson@wisc.edu](mailto:gwilkinson@wisc.edu)
  - c. Also save excel file here: O:\LTER Water Chem Lab\5 - Task Lists\Non-Core LTER Samples Submitted for Analysis
    - i. Name your Excel file with your name, project ID, and date of submission to lab (sample collection dates can be recorded in spreadsheet for chemists to track test specific holding times).
    - ii. Keep sample IDs as simple. All meta-data associated with samples such as depth/location/collection date/ETC can be kept in the sample submission spreadsheet.
      1. Sample IDs can be as simple as "Project Identifier" - "# in series".
      2. If you are submitting barcodes, then the sample IDs can be as long or complex as you want, but the **barcode must be machine readable**. If you aren't certain, send a sample barcode to the lab to print off and test with the scanners.
3. **Individually labeled bottles/vials organized in numerical order by sample ID**
  - a. If you purchased bulk S-bottles or vials, ask Jimmy for empty flats/boxes/racks to organize your samples when planning your sampling campaign.

- b. A box/tray must be clearly labeled with your name, your project name (keep this consistent from event to event and from year to year), and contact information.
  - c. If multiple boxes/trays are being submitted, please label each one with its number in series (e.g., 'Box 1 of 3').
  - d. On the box, indicate the method of preservation so chemists can matrix match for the analysis (e.g., 1% HCl)
  - e. When submitting both filtered and unfiltered samples for TN/TP, the samples will share a sample ID. Organize the samples with the filtered bottle first, then unfiltered for each sample ID. This organization helps the chemists!
- 4. Avery 5160 barcode labels for all samples included in the submission for each test** (see barcode label creation protocol for details). Clip these together and place in "Incoming" filing tray in 101 lab.
- 5. Place samples in their appropriate place in 101 Lab.**
- a. Boxes of S-bottles (TN/TP, Cations, DRSi) can be left on top of LTER fridge on the east wall of the 101 Lab.
  - b. Flats of N-vials (NO<sub>x</sub>/NH<sub>4</sub>/SRP) in LTER freezer
  - c. Carbon vials (TIC/TOC/DIC/DOC) organized in racks and placed on lower shelves in LTER fridge (very important to prevent freezing and vial breakage)
  - d. Flats of V-vials in LTER fridge (Cl/SO<sub>4</sub>).
  - e. If needed, contact Jimmy via Slack to find overflow storage for your samples.

***When sample analysis is complete and passed QA/QC checks:***

- 6.** When sample analysis is completed, an e-mail will be sent to notify you. The raw run data will be saved in the share drive here: O:\LTER Water Chem Lab\3 - RAW DATA\Outside Projects\**YOUR PROJECT**.
- a. It is your responsibility to review the data in a timely manner and reach out with any questions or requests for re-analysis.
  - b. You will be provided with the full analysis run which will include the standard curve, QC checks, and duplicates. It is your responsibility to appropriately report the lab procedures in your manuscript. Please reach out with questions.
- 7.** Within two weeks of receiving the data you are responsible for archiving or disposing of your samples.
- a. Vials from carbon analysis will need to be picked up from the lab if you intend to reuse them. Alternatively, you can authorize staff to recycle the vials.
  - b. CFL students can store water samples in the appropriate location in the basement. Non-CFL students are required to remove their samples from the building following analysis unless prior approval from Grace for other storage.