

STANDARD OPERATING PROCEDURE FOR RECEIPT, HANDLING, AND STORAGE OF AQUATIC MICROBIAL ABUNDANCE SAMPLES

I. VERSION HISTORY

NEON AMC Sample Handling V3.0	Section V.B – change sample container to 50 mL conical tube Section V.C.2 – updated the receiving sample condition terminology to match Statement of Work Added Section V.H – Return of Shipping Containers
NEON AMC Sample Handling V2.0	Reference Section update – added SOW and uploading file instructions. Section F changes moved reporting problems paragraph to Section E. Added verbiage to see Attachment 2a for uploading instructions. Moved Revision History to the beginning of the SOP change its title to Version History. Created Section V-G – Disposal of waste and samples. Update Training Section VII.
NEON AMC Sample Handling V1.1	Document Number has switch to NEON AMC Sample Handling from SOP Number: BMI_Neon Aquatic Samples -01
NEON AMC Sample Handling V1.0	Added bar code scanner and sample temperature receiving specification. Added sample disposal instructions.
NEON AMC Sample Handling V00	The original NEON receipt SOP has been split into two. Each side of NEON has their own receipt SOP

II. SCOPE/PURPOSE

This Standard Operating Procedure (SOP) provides a general process for the receipt, handling, and storage of aquatic samples for microbial analysis.

III. REFERENCES

- A. BIO 1-001 SOP for Receipt, Storage, Transport, and Shipment of Biological Materials

- B. Biosafety Manual - CBRNE Columbus Biosafety Manual - CBRNE Defense Columbus: Recommended Practices for Risk Group 2 Agents in Biosafety Level 2 Laboratories
- C. HA 337 Hazard Analysis for NEON Aquatic Samples
- D. Exhibit A – Statement of Work Aquatic Microbial Abundance – Cell Counts
- E. Attachment 2a_uploading-files-to-NEON_aquatic cell counts

IV. DEFINITIONS

Biosafety Level 2 (BSL-2) Lab: an environment suitable for work involving agents that pose moderate hazards to personnel and the environment as specified in the most recent version of the Centers for Disease Control and Prevention’s Biosafety in Microbiological and Biomedical Laboratories (BMBL) manual.

Domain: A location from which environmental samples are collected and shipped to Battelle.

Manifest Form: A document, provided in hard copy with the shipment and in electronic format by the Technical Representative, which describes the contents of the shipment of environmental samples from a domain.

Receipt Form: A document, provided in electronic format by the Technical Representative, which will be used to confirm receipt of the shipment and all samples; this receipt form must be completed and uploaded appropriately.

Technical Representative: A representative of the domain providing the environmental samples, who is designated to provide the chain of custody forms as well as technical assistance in the processing of environmental samples.

V. PROCEDURES

A. Equipment Needed

- Refrigerator (2 °C to 6 °C)
- Barcode scanner
- Calibrated digital thermometer

B. Receiving Shipments of Samples

Shipments of water samples will be received doubly contained within primary 50 mL conical tube and secondary zip lock bags on ice packs inside an insulated shipping container. Samples will be picked up from the shipping and receiving department and taken to the laboratory as soon as possible so that the samples remain chilled.

C. Handling of Aquatic Samples for Inventory

1. Open the shipping containers containing the chilled aquatic samples on the benchtop.

2. Check the temperature of the samples by placing a thermometer probe in the box where samples are located, close the lid, and allow time for the thermometer to equilibrate. The temperature should be 2-10 °C. Samples that arrive partially frozen or above the 2-10 °C range will be noted in the sample condition column as “samples arrived frozen but analyzable” or “samples arrived warm but analyzable” in the data return ingest and sample receipt form. A further remark should be added to the “remarks” column stating the temperature recorded.
3. Remove the vials from the secondary bag, scan the barcode with the barcode scanner, and inspect each sample and verify the sample ID and barcode on the hard copy of the manifest form matches that of the sample received.
4. Note the condition (color and clarity) of the samples on the manifest form in the “remarks” column and verify the correct number of samples are present.
5. Sample condition and temperature will also be recorded on the digital monthly sample receipt spreadsheet.
6. If samples are received in a compromised condition, a response will be sent to the chain of custody email notifying the NEON team of sample issues. Observations or photos should be included in the email.

D. Storage Aquatic Samples

1. After recording sample temperatures and condition, place the samples into a refrigerator at 2 – 6 °C.
2. The temperature of the refrigerator must be monitored and recorded at a minimum of three times per week. Each refrigerator has a temperature log affixed to the door.

E. Entry of Sample Receipt Information into the Receipt Form

For each sample on the manifest form, note the sample condition, such as the temperature upon receipt, if the primary containment is damaged, or if the sample ID does not match the manifest form. Also note the storage location, the date of inspection, ID of the thermometer and calibration due date, and the name of the individual who inspected the sample. All this information is input into the electronic version of the receipt form.

F. Reporting Problems

Any issues or problems with the shipment (missing samples, broken packages, illegible labels, etc.) will be reported to the Technical representative within 48 hours of the problem being discovered. Resolve any problems with the samples before uploading the receipt form to the NEON portal.

G. Submission of the Completed Receipt Form

Upon completion, the receipt form will be uploaded appropriately to the NEON portal, so the Technical Representative is notified. See Attachment 2a_uploading-files-to-NEON_aquatic cell counts for uploading instructions.

H. Disposal of Waste and Samples

1. Upon filtration, sample waste should be collected in a plastic carboy for disposal by Battelle Hazardous Waste. Samples contain 1% Formaldehyde.
2. Unfiltered samples can be disposed of 30 days after data has been returned. Samples can be disposed of in the 1% Formaldehyde waste carboy and given to Battelle Hazardous Waste.
3. Scintillation vials can be disposed of in glass waste.

I. Return of Shipping Containers

Shipping containers with packing materials will be returned to the Domains within 14 days of sample receipt using the return shipping label provided by the Domains. Domains will be notified if containers were damaged during shipment and are not able to be returned.

VI. SAFETY AND HAZARD ANALYSIS

See Neon Hazard Analysis/Risk Assessment for safety considerations.

VII. TRAINING

All staff will read and sign off that they have read and understood this SOP before handling any environmental samples. Staff will be required to read and understand any new version of this SOP or if the PI/QA determines that a Staff member needs to be retrained. Staff will act under the direction of the permit holder to ensure that samples are handled properly. Staff will not work unsupervised until the PI signs off on the Staff Member's Training form.