



New Jersey Department of Health–Public Health and Environmental Laboratories (PHEL)  
Wastewater Surveillance Monitoring Program Sampling Guide

Thank you for your participation in the New Jersey Department of Health Wastewater Surveillance Program. The following is an instruction guide for our Monitoring Program partners. It provides details on how to use and ship the wastewater collection supplies.

Please do not hesitate to contact us by email or phone with any questions.

**Supplies for Wastewater Collection:**

Prior to beginning sampling, you will receive a shipment of supplies for wastewater collection and sampling. Additional supplies will be shipped quarterly or as needed. The shipment should be unpacked upon arrival and will include enough supplies for up to two samplings per week.

*Contents include:*

- Cooler or insulated shipper
- Instructions for sampling
- PHEL Collection Form
- HDPE Plastic bottles
- Ice packs for transport (freeze overnight prior to shipment)
- Waterproof shipping labels
- Outer plastic bag to place samples in to prevent leaks

*Items that may be needed and not included in kit:*

- Paper towels
- 70% Ethanol
- Waterproof marker
- Sampling devices
- Clean water
- Packing tape
- Sealed container for contaminated gloves/paper towels and all BioSafety Level 2 (BSL-2) waste

*Supply orders:*

PHEL will ship additional kits and sampling supplies on a quarterly basis. If you need additional supplies ahead of time, requests can be made by emailing [PHEL.MMU@doh.nj.gov](mailto:PHEL.MMU@doh.nj.gov). Please provide at least a one week notice when requesting additional kits.

### **Wastewater Collection Overview:**

Prior to sampling, freeze icepacks overnight in a freezer. Lay ice packs flat in the freezer so they will fit in the cooler/shipper.

*Sampling Type (choose one):*

- 24-hr time-weighted composite sampling
- 24-hour flow-weighted composite sampling
- Grab sampling

Refer to the sample collection form for required and optional sampling data fields.

### **Wastewater Collection Process:**

Collect wastewater using the clean, HDPE sample bottles provided. Keep on ice while transporting to the laboratory. For routine/surveillance sampling, sample collection date and time should be consistent. Samples must be shipped to PHEL before the close of the workday (Mon.-Thurs. Only) or picked up from the state courier at the designated time.

*Equipment that may be needed for collecting wastewater on site:*

- grab sampling device
- container for pooling **composite** samples
- Cooler or shipper
- Frozen ice packs (please do not use ice in cooler as it can leak or damage samples)
- Paper towels
- Waterproof markers
- Labels
- 70% ethanol spray bottle
- Sealed container for contaminated gloves, paper towels and all BioSafety Level 2 (BSL-2) waste

*Preparations Before Collection:*

● **Sample bottle preparation:**

One (1) HDPE plastic bottle with a watertight lid is provided for wastewater collection. Keep sampling bottles closed until used for sampling.

● **Sample bottle labeling:**

Labels are waterproof to prevent water and ethanol damage and are provided in the kit for wastewater collection.

### *Collecting the Sample:*

Following the sampling type indicated above (24-hr time-weighted composite, 24-hr flow-weighted composite, grab), follow the directions below.

#### **For composite sampling (time- or flow-weighted):**

Wastewater should be collected as a 24-hr time- or flow-proportional composite sample (example: Monday 09:00 am to Tuesday 09:00 am). The sample should be taken from the influent (pre- or post-grit removal).

To collect (~150 mL):

- Composite sample in a clean container.
- Rinse the **clean** sampling device in wastewater three times.
- Mix the sample well and take a subsample using a clean secondary sampling device.
- Pour carefully into the clean, labelled laboratory sample bottle.  
*Avoid contaminating the outside of the bottle.*
- Repeat until the sample bottle provided is filled ~2/3 of the way. Close the lid tightly. *Do not fill the sample bottles to the brim. Leave some headspace in the bottle.*
- If possible, spray down the sample bottle with 70% ethanol; wipe down with a paper towel.
- Place the sample bottle on ice packs, in the cooler/shipper.
- Discard all of the remaining composite sample back into the raw wastewater feed.
- Rinse the sampling device and container with clean water if available. Spray down with 70% ethanol and allow to air dry.

#### **For grab samples:**

Grab sampling can be done at the headworks, after the coarse- and grit screening.

To collect (~150 mL):

- Rinse the clean grab sampling device in the wastewater three times.
- Take the sample using the sampling device, scooping in the direction of the flow.
- Pour carefully into the clean, labelled sample bottle. *Avoid contaminating the outside of the bottle.*
- Repeat until the sample bottle is filled 2/3 of the way and close the lid tightly. *Do not fill the sample bottle to the brim.*
- Spray down the sample bottle with 70% v/v ethanol and wipe down with a paper towel.
- Place the sample bottle on ice packs, in the cooler/shipper, if sample collection is less than 12 hours before pickup.
- Rinse the sampling device with clean water, if available, and spray down with 70% v/v ethanol and let air dry.

*Disposal and cleaning:*

All disposable items should be discarded as BSL-2 waste. Reusable items, such as the composite and grab sampling devices, should be cleaned after each use with clean water following a 70% v/v ethanol rinse.

**Preparing Samples for Shipping:**

- To prepare samples for shipment, follow the outline below:
  - Ensure lids are hand tightened to prevent leakage. Do not over-tighten as the bottle could warp.
  - Label bottle with collection date and facility name.
  - Place the bottle in the sealable biohazard bag.
  - Seal biohazard bags.
  - Place an ice pack on the bottom of the transport cooler.
  - Place sample in the cooler and a second ice pack on the side of the bottle.
  - Fill out the collection form and place back in a separate re-sealable plastic bag on top of the cooler.
  - Close the lid securely with packing tape.
  - Take cooler to UPS pickup location.

**Preparing Samples for Courier pickup:**

- To prepare samples for shipment, follow the outline below:
- Ensure lids are hand tightened to prevent leakage. Do not over-tighten as the bottle could warp.
  - Label bottle with collection date and facility name.
  - Place the bottle in the sealable biohazard bag.
  - Seal biohazard bags.
  - Place sample in the larger biohazard bag and an ice pack on the side of the bottle.
  - Fill out the Collection form and place back in a separate re-sealable plastic bag in large collection bag.
  - Take cooler to Courier pick up point.

**Transporting the Sample:**

Samples should *either*:

- Be transported via courier, using a collection form, to the laboratory on the same day as collection.  
OR
- Shipped to PHEL on the day of collection via the provided UPS shipping label. If the sample is collected on Friday or Saturday, store in a refrigerator until Monday and then ship (PHEL can not receive packages on the weekend).

**COLLECTION**

Sample collectors must complete the collection form provided prior to shipment or pickup. Seal in the cooler with the samples, but keep the form outside of the plastic sample bag. The form should be placed on top of samples in cooler or in between the cooler lid and cardboard outer sleeve for shippers (to avoid damage from potential leaks). If the sample is being picked up by courier, place the form in the sleeve of the larger biohazard bag.

***PHEL Courier***

The PHEL courier will pick up samples within a designated timeframe on collection days. Samples must be ready by the designated time.

***UPS Shipping***

Please place the provided shipping label (included in the cooler) on the cooler box and drop off at the nearest UPS pickup point. Facilities will be provided with enough boxes for two weeks upon onboarding, and empty boxes will be shipped back to the wastewater facilities on a weekly basis for reuse.

Sample coolers can also be dropped off at the PHEL laboratory at 3 Schwarzkopf Drive in Ewing, NJ prior to 4:30 daily.

If a sample is not picked up after being left at the designated time and pick up location, call PHEL Materials Management at 609-418-9114.

**Recording Data:**

Record all required sample data on the collection form (see Wastewater Collection Overview section above), as well as any relevant field log data. If sample data is not included on the collection form, or the form is missing, PHEL will contact you for the information prior to submitting laboratory results.

**Important Points of Contact**

<b>PHEL Wastewater Testing Operations Teams</b>			
Testing Function	Name	Phone	Email
Shipping and Pickup; Coolers	Satyam Patel	609-418-9114	PHEL.MMU@doh.nj.gov; Satyam.Patel@doh.nj.gov
Sample testing	Nick Palmateer	609-718-8357	PHEL.wastewater@doh.nj.gov; Nicholas.Palmateer@doh.nj.gov
Testing Results	NJDOH Communicable Disease Service	-	CDS.WWS@doh.nj.gov