

Sampling Water for Low Level Mercury (LLHg) using EPA 1669 and EPA 1631E

Please read and understand this entire procedure prior to beginning any sampling.

[NOTE: EPA methods [1669](#) and [1631E](#) require that at least one Field Blank and at least one Field Duplicate (sample duplicate) be collected for every 10 or fewer samples collected at a single site (or facility with uniform environment), per sampling event.]

SAMPLING PROCEDURE

BEFORE YOU BEGIN

- (1) Become familiarized with [EPA 1669](#) using the "Dirty Hands" / "Clean Hands" sampling procedure, which requires a 2-person team. This procedure MUST be used throughout the sampling process.
- (2) Gather and wear proper PPE, nitrile gloves, safety glasses, etc.
- (3) Each LLHg kit contains a minimum of three unmarked bottles for Field Blank, Sample, and Field Duplicate. (Additional bottles are available upon request for additional uses, including non-compliance samples and/or additional blank types.) Each bottle is a double bagged **250-mL (8-oz) Clear Glass Boston Round** with PTFE cap. The Field Blank and Trip Blank (if requested) are filled with Reagent Grade De-Ionized (DI) water.
- (4) Each bottle is double bagged; DO NOT SWAP the bags when rebagging. The outer bag is numbered according to the bottle number, and the inner bag is blank. The bottles should be returned to the same bags, in reverse of how they were removed (bottle into inner bag, zip-sealed, bagged bottle into outer bag, then zip-sealed).

SAMPLING STEPS

- (1) Field Blank (FLDBK): Label one of the bottles and remove the cap. Place the cap up-side-down and protected from becoming contaminated (or place inside the inner bag). The Field Blank is to be treated as a Sample in all respects, including contact with the sampling device if a sampling device is used. If no sampling device is used, or at a minimum, keep the Field Blank cap OFF and the bottle located near the sampling site during Sample collection. Place the cap back on the Field Blank after a time period equivalent to the time it takes to collect the Sample.
- (2) Sample (SAMPLE): Label the next bottle as the sample and remove the cap (protect from contamination). Fill the bottle with Sample; ensure that the entire bottle is filled as it is important to attain zero headspace. Place the cap back on the bottle.
- (3) Field Duplicate (FLDDUP): Immediately after the Sample has been collected, collect a sample duplicate. This Field Duplicate should be collected exactly as the Sample, with minimal time lapse. Place the cap back on the bottle. Label this bottle as the Field Duplicate.
- (4) Place each bottle in the inner bag in which it was received, zip-seal, place in the appropriate outer bag (numbered), zip-seal, and return to its bubble bag.

FINAL STEPS

- (1) Record the sampling date, time, site, and name of sampler on the Chain-of-Custody (CoC) Record (FORM-N0013A). Ensure this information matches what is on the bottle labels.
- (2) Return the bottles to the mercury free cooler that they were sent in. It is crucial to ensure there is packing material between the bottles in order to reduce the chance of breakage during transport.
- (3) DO NOT use Ice to chill the samples; chilling is not necessary, return all samples promptly to the lab. Samples must be received within 28 days of sampling.

ACKNOWLEDGEMENT

I hereby acknowledge that I ___ have or ___ have not (check one) collected all submitted samples for Low Level Mercury (LLHg) as summarized above. I understand that not collecting samples using the EPA 1631E and 1669 procedures may jeopardize the validity of any results obtained.

(Signature)

(Date)

Submit this document with the completed Chain-of-Custody Record that accompanies samples.

Attachment 1
Reference Information for
Sampling Water for Low Level Mercury (LLHg) using EPA 1669 and EPA 1631E

Available Bottles for "LLHg Kit":

PROVIDED ROUTINELY

- (1) Field Blank (FLDBK): Double bagged 250-mL (8-oz) Clear Glass Boston Round with PTFE cap, filled with Reagent Grade DI water.
- (2) Sample (SAMPLE): Double bagged 250-mL (8-oz) Clear Glass Boston Round with PTFE cap.
- (3) Field Duplicate (FLDDUP): Double bagged 250-mL (8-oz) Clear Glass Boston Round with PTFE cap.

PROVIDED BY SPECIAL REQUEST ONLY

- (4) Equipment Blank: Double bagged 250-mL (8-oz) Clear Glass Boston Round with PTFE cap, filled with Reagent Grade DI water.
- (5) Trip Blank: Double bagged 250-mL (8-oz) Clear Glass Boston Round with PTFE cap, filled with Reagent Grade DI water. This bottle will have a chain of custody seal across the cap, and will be labeled "TRIP BLANK DO NOT OPEN".