

## Detailed Sample Collection & Custody Transfer Process

### EPA Method 325 A and B

This document provides a detailed overview and step-by-step instructions for personnel responsible for carrying out benzene fenceline monitoring using passive sampling tubes.

#### RECEIVING SAMPLING KITS



Note: Your refinery will initially receive 2 sampling kits marked A and B. Sampling kit A is to be used for the first 14 day sampling event and B will be used for the next 14 day sampling event. Sampling kit B can be stored inside your facility at ambient temperature until deployment is necessary.

Be sure to remove ice packs from both sampling kits upon receipt and place into freezer until the sampling kits are ready to be shipped to the laboratory



## PRE-DEPLOYMENT AND SAMPLING KIT COMPONENTS

For sampling kit A, remove the numbered security tie. Remove the clipboard that contains your Field Test Data Sheet and Chain of custody form. Your Pre-paid shipping label for sending the sampling kit to the laboratory is underneath the field sheet. This will not be used until the 14 day sampling cycle is complete. Remove the pack and place into the freezer until the sampling kit is ready to be shipped to the lab. **Always allow the tubes to equilibrate to ambient temperature for at least 30 minutes prior to deployment.**



### Sampling Kit Components

1. Clipboard containing Field test data sheet, Chain of Custody form & Pre-paid Return Shipping label
2. Passive sampling tubes
3. 2 Wrenches
4. Blue Nitrile Gloves
5. Numbered Security Tie and extra regular zip tie for return shipment
6. Ice pack & Dehumidifying Canister

If a sampling kit or any of its contents are ever damaged or no longer functional please contact CamSCO immediately for a replacement. All dysfunctional equipment is replaced at no additional cost for the life of the monitoring contract.

**NOTE:** Passive sampling caps are included with your first shipment. You will find an additional envelope in the box with a container of passive sampling caps for your refinery. Passive sampling caps are reused from one 2-week sampling period to the next.

## Passive Sampler Deployment – SINGLE PASSIVE SAMPLING TUBE LOCATIONS (FIELD SAMPLES)

Note: At all sampling locations make sure tube shelters are intact and functional. If a Shelter is ever damaged or no longer functional, please contact CamSCO immediately for a replacement.

### Tube Storage Container



1. Remove a tube storage container with a sample tube at random from the sampling kit.
2. Unscrew cap and Slide the sample tube out of the container.
3. Retrieve the container of passive sampling caps and remove one cap.
4. Each tube has an arrow indicating sampling air flow and proper installation. Remove the brass compression cap from the sampling end of the tube and replace with the passive sampling cap. **The arrow should always point away from the passive sampling cap.**

1. Passive Sampling Cap
2. Brass Compression Cap



5. Place the extra brass compression cap back into the tube storage container. Secure the tube in place into the shelter making sure that the compression cap rests flush with the metal tube clip. The arrow should always be pointing up.
6. Place the storage tube container upside down into the Sampling kit
7. Fill out the necessary information on the **Field Test Data Sheet** for that monitoring location.





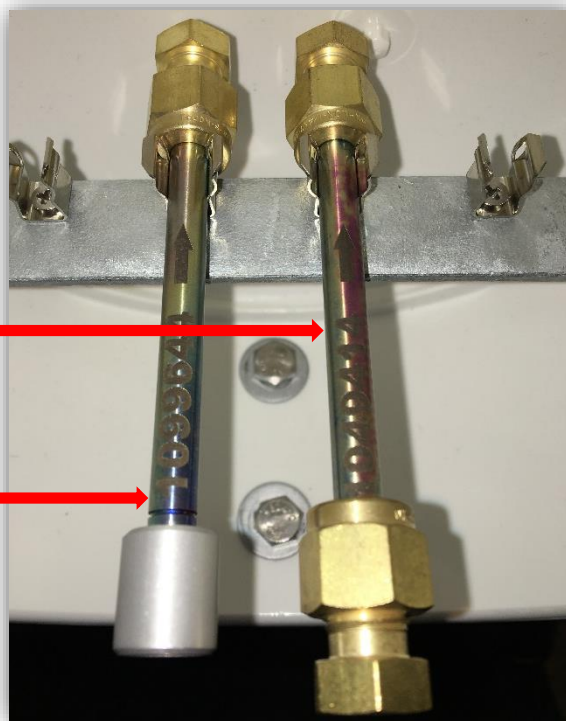
**SUGGESTION** – After you deploy a sample tube, place the tube storage container into the sampling kit upside down to help mark that tube as used.



## PASSIVE SAMPLER DEPLOYMENT – DOUBLE TUBE LOCATION w/FIELD BLANKS

**Note:** Each Refinery should collect at least two field blanks per 14 day sampling event.

1. Remove two sample tubes at random from the sampling kit.
2. Remove the tubes from the storage containers.
3. For one of the tubes do not remove the brass compression caps, just be sure that the compression caps are secured in place on the tube. This will be the Field Blank tube (**FB**).
4. For the other tube, remove the brass compression cap and replace with a passive sampling cap. This will be a regular field sample (**SA**).
5. Place compression cap into the tube storage container and close it.
6. Secure both the Field Blank tube and the regular field sampling tube into the shelter, making sure that the compression caps rest flush with the metal tube clip.
7. Place the tube storage containers upside down into the sampling kit.
8. Fill out the Field Test Data Sheet making sure to identify the Field Blank (**FB**) tube from regular passive sampling tube (**SA**).



## PASSIVE SAMPLER DEPLOYMENT – DOUBLE TUBE LOCATION w/DUPLICATES

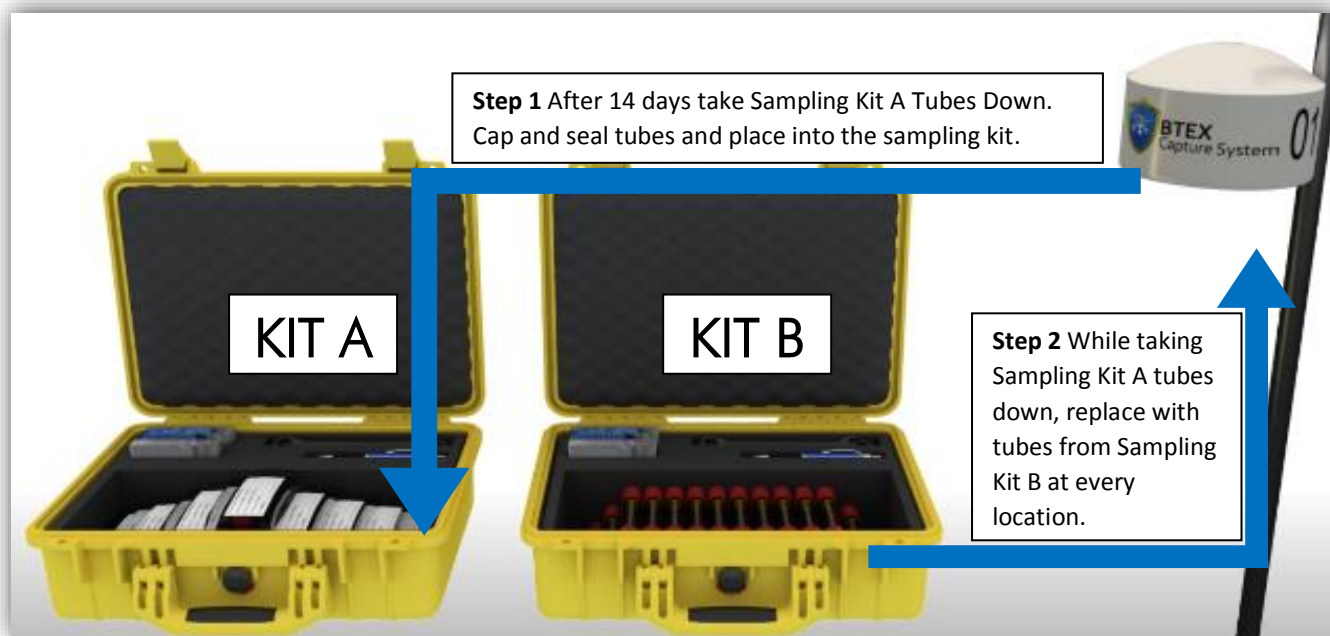
**Note:** Each refinery should collect at least one co-located duplicate sample for every 10 field samples. This section describes 2 sample tubes under one tube shelter. One tube will be a regular field sample and the additional tube will be the duplicate.

1. Remove 2 tubes at random from the sampling kit.
2. Replace the brass compression caps on the sampling end of both tubes with passive sampling caps.
3. Place compression caps into corresponding tube storage containers and close.
4. Secure both tubes into the shelter, making sure that the compression caps rest flush with the metal tube clip.
5. Place the tube storage containers upside down into the sampling kit.
6. Fill out the necessary information on the Field Test Data Sheet making sure to identify the Duplicate tubes (**DU**) from the regular field sample tube (**SA**).



## SAMPLE RECOVERY AND RE-DEPLOYMENT

Note: After 14 days a new sampling cycle is started with Sampling Kit B. As you recover the Sampling Kit A tubes from each station, you will simultaneously replace with new tubes from Sampling Kit B. All samples should be retrieved around the same time and in the same sequence in an attempt to end sampling exactly at 14 days. Field personnel should replicate each sample tube/shelter combination at each sampling location just as it was done in the prior 2 week sampling event. Essentially, as you harvest sample tubes from one kit around your facility, you will need to simultaneously replace those tubes with new tubes from the sampling kit that has been in waiting. The picture below shows the process



1. Go to your first monitoring location around the same time you did 14 days earlier.
2. Open the sampling kit that corresponds with the sampling event that is ending.
3. Remove the sample tube from the shelter.
4. Replace the passive sampling cap with the brass compression cap located in the storage container. **NOTE: (If recovering a field blank tube from the shelter, ensure that the compression caps are still in place on the tube and proceed to step 6)**
5. Hand tighten the compression cap and then use the wrenches to tighten another  $\frac{1}{4}$  turn. **It is critical that the compression cap is reinstalled correctly on the sample tube to avoid contamination. Tips for proper cap installation is provided at the end of this document.**
6. Place the capped and sealed sample tube into the corresponding sampling kit and fill out the stop date and time on the Field Test Data Sheet.

Once each passive sampling tube is collected and stored properly, prepare the sampling kit for shipment to the laboratory.

#### PACKAGING SAMPLING KIT FOR SHIPMENT TO EUROFINS AIR TOXICS

1. Verify all sample tubes and materials are in the sampling kit.
2. Retrieve the ice pack from the freezer and place into the sampling kit.
3. Enter the Security Tie ID Number on the upper right location of the Field Test Data Sheet.
4. Sign the “Relinquish By” portion on the Chain of custody information section of the Field Test Data Sheet when relinquishing to shipper.
5. Indicate the selected shipping agency in the “Received by” section of the Field Test Data Sheet.
6. Make a copy for your records and then place original Field Test Data Sheet into the sampling kit.
7. Close latches and insert the numbered security tie and extra zip tie in place on the kit.
8. Place the provided pre-paid shipping label directly onto the sampling kit and relinquish to the shipper the same day you retrieved the samples. Samples must be shipped the same day as recovery.

If you have any data questions or need additional training on tube handling and best practices, please contact your project manager by telephone at (800) 448-9057 or [Support@325monitoring.com](mailto:Support@325monitoring.com).



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## Tips for proper compression cap installation

1. Place the nut part of the compression cap on the tube and then slide the PTFE ferrule down shaft as shown in the picture below



2. Place the top part of the cap onto the tube so that the end of the tube rests as far inside the cap as possible as shown in the picture below.



3. Slide the nut along with the PTFE ferrule up the shaft and connect to the cap by screwing the 2 pieces together trapping the ferrule in between as shown in the picture below. **Hand tighten the compression cap and then use wrenches (9/16" & 1/2") to tighten another 1/4 turn. Gloves Recommended when handling tubes**

