

US EPA ARCHIVE DOCUMENT

U.S. EPA Region 6 Laboratory
Houston Citizens Air Monitoring Project

HCAMP-02
Custody and Control of Equipment, Samples and Supplies
Approval Sheet

Approvals:

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Texas Natural Resource Conservation CommissionT	_____
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1.0 Description and Purpose

- **D** 1.1 Custody of a sample or equipment is:
 - origination, for example sample collection,
 - possession as designated by signing out for property or equipment,
 - in view after being in your possession or origination or
 - secured such as locked up after being in your possession or origination.

- 1.2 The purposes for maintaining custody are:
 - to maintain sample integrity by preventing damage or contamination,
 - to provide visual and other descriptions about sample collection and equipment operations, especially as it may impact results and
 - to provide continuity of sample possession/observation and thus increase reproducibility and confidence in the results.

- 1.3 The following are not the goals of the Houston Citizen Air Monitoring Project for maintaining custody:
 - legal purposes,
 - medical purposes or
 - any other reason beyond assuring the proper quality assurance for the sampling process and safeguarding expensive equipment.

- 1.4 The custody procedures described herein are for tracking equipment and samples between the EPA and the persons receiving, returning or delivering the equipment/samples. Intermediate transfers between, for example, coordinators, will probably occur and in this case should be tracked on the Chain-of-Custody for samples, or by use of another logbook or other means.

- 1.5 The Chain-of-Custody form at the end tracks custody of the sample from the time of its origin (when the sample is taken), the conditions and time of sampling and who maintains custody.

- 1.6 The equipment log book described herein assigns custody of equipment that is used for sampling from the time it leaves the lab until it returns.

- 1.7 Expendable items such as Tedlar™ bags, ferrules and tubing are not expected to be returned and their issuance is only tracked for control purposes, i.e. to maintain inventory and to be aware of usage rates.

- 1.8 When a non expendable piece of equipment is released into the custody of another, that person signs for the equipment in a property book. It is recommended that person keep a property book also for re-issuance.

- 1.9 Some of the equipment and control items are described below. A detailed description of the items will be found in the SOPs that govern the use of those items. A description is included here merely for orientation.

2.0 Equipment and Parts Custody

- 2.1 Tedlar™ Bags. These will be issued according to the sampling protocol in effect at the time of issuance. They are expendable (one use) items but must be accounted for and return to the lab when they contain a sample, which is under custody. A record will be kept in the laboratory of the number of bags issued and to whom in order to estimate the

amount of potential samples.

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- 2.2 One-fourth inch to 3/16" Teflon reducing ferrules. These are expendable items used for connecting the Tedlar bags to some of the buckets and to connect the Tedlar bag to the autosampler in the laboratory. While they are expendable, they are also reusable and may be reissued once the analysis is completed. A record will be kept of the amount issued for inventory purposes.
- 2.3 1/4" Swagelok™ stainless steel nuts. These are reusable for various parts of either the bucket, the analysis equipment or connective tubing, and will be loosely monitored for control purposes only since once issued for some specific purposes, they may be reused for the same purpose.
- 2.4 1/4" Teflon tubing. Issued for specific purposes to connect sample pumps to tubes, Once issued, they will be
- 2.5 6-Liter sampling canisters equipped with accessories. The canister and accessories constitute a canister sampling unit. Specifically, these items are:
- 2.5.1 A 6-liter stainless steal canister with a specific ID number. This ID number is permanently a part of the canister. It will have a prefix that changes each time the canister goes out into the field.
 - 2.5.2 A pressure/vacuum gauge is attached to the canister and is used to determine if the container has and is maintaining the vacuum that was established prior to sampling. This item is a part of the unit and difficult, but not impossible to remove. It is not expendable and will be included in the description when signing out for samples.
 - 2.5.3 A 5 minute restricted grab sampler for the canister. This is attached to the canister and also can be removed but should not be. It restricts the air flow into the canister at the time of sampling in order to synchronize the canister sampling time with the bucket sampling time. It consists of two stainless steel 1/4" Swagelok™ nuts, a stainless steel fritted tube and a Swagelok™ thread-to-tube conversion piece. As a unit, these four pieces are not expendable and will be included in the description of the unit when signing out.

The five minute restricted grab sampler will have a small Teflon or plastic dust cover and two 1/3" graphite-Vespel ferrules which are expendable, but nevertheless should remain in place to protect the exposed frit and maintain vacuum /sample integrity. They will be replaced as needed once the analysis is complete.
 - 2.5.4 A box as a protective cover for the canister. The box will be issued with the canister and should be used to protect the canister from "dings" and abrasions when not sampling. A Chain-of-Custody seal may be used to seal the box.
 - 2.5.5 The 6-liter canister and accessories will be accounted for in a bound journal called "Air Canister Custody Logbook" which includes spaces for description, names of parties doing the transfer and return dates.

- D** 2.6 Vac-U-Chamber or “suitcase sampler” and accessories. This item with its attendant parts is an alternative for the “bucket” sampling system and is, as a unit, non expendable. It consists of
- 2.6.1 A case with a windowed porthole, sealing gasket and three inter wall connectors for sampler, the purge outlet and pulling a vacuum.
 - 2.6.2 A Radio Shack™ vacuum pump which is relatively inexpensive.
 - 2.6.3 A stainless steel elbow adapter for the SKC 231-08 type bag. [If the US EPA laboratory is the sole issuer of Tedlar bags, this elbow will not be needed and therefore, will not be issued. There will be some expendable Teflon tubing available for custom connections as needed to accommodate pumps or replace the sample insert, but this usage is small and the bags provided by EPA will be the SKC™232-08 10- liter bag].
- 2.7 FedEx large style box or equivalent. This is a reusable box up to a point. It is the protective container for the Tedlar™ bag and is the logical place to affix the Chain-of-Custody seal, but becomes unusable after recycling as yet an undetermined number of times, so they will be replaced as needed.

3.0 Sample Custody

- 3.1 Sample custody is separate from the custody for the non expendable container. For example, suppose a person was performing a co-located, synchronously collected sampling event with a canister and a Tedlar™ bag. The 6- liter canister would have been signed out for but the Tedlar™ bag would have been issued. Upon delivery to the lab after the sampling event, the canister would be returned as a property return, much like a returnable Coke™ bottle. The sample in both the canister and the Tedlar™ bag would be documented with the sample Chain-of-Custody form.
- 3.2 The Chain-of-custody tag This [is optional, open for discussion at this point and] uniquely identifies the sample in both containers such that there would be a tag for both the canister and the bag. This is merely a method of indexing the two entities even though they are collected at the same time and place. For example, tag number 6-021294 identifies the sample contained within the 6-liter canister and tag number 6-021295 identifies the sample within the 10-liter bag. The numbers would appear on the Chain-of-Custody form as a simple means of correlating the tag with the form. These tags have auxiliary information such as time and date, location and type of sample (grab).
- 3.3 Chain-of-Custody seal. This seal is affixed to each container in such a way that it prevents further access to the sample container opening and thus helps insure the integrity of the sample. It is affixed, signed and dated by the sample collector and is broken, signed and dated by the laboratory analyst immediately prior to analysis.

**Houston Citizens Air Monitoring Project
 Chain-of-Custody Form**

Date of Sample _____ Time of Sampling _____

Name of Sampler _____ Name of Organization _____

Record of Custody Transfer (Name, Time and Date)

Sample Identification

Container 1	Container 2
Container Type [Tedlar bag, 6-liter canister]	Container Type
Container ID [for Tedlar bags, can write on label]	Container ID
CoC Tag #	CoC Tag #
Sample type [3' grab, field blank, field spike]	Sample type [or duplicate]

Geographic

GPS Co-ordinates	Key Map Designator
Altitude	Landmarks

Other Description:

Atmospheric

Temperature	Barometric pressure
Humidity	Wind direction (from)
Wind speed	Clear, partly cloudy, overcast

Sampler Observations

Sensory Observations	Physical Observations
odor	choking
color	burning
perceived emission source	irritation
sound	other

[There is room for more and the other side of the sheet pending what is agreed upon at the meetings]