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TITLE: FIELD SAMPLE STORAGE PROCEDURES

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Post Office Box 12194
Analytical and Chemical Sciences
Research Triangle Park, NC 27709-2194

AUTHOR(s):

Kent W. Thorneloe Date: 5/15/95

Date:

Date:

APPROVED BY:

Principal Investigator: E Pellizzari Date: 5/18/95

QA Officer: D J Smith Date: 6/14/95

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FIELD SAMPLE STORAGE PROCEDURES

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1.0 SCOPE AND APPLICATION

Personal, environmental, and biological samples must be maintained under the correct storage conditions to preserve sample integrity, prevent spoilage, and ensure adequate recovery of target analytes. Field storage conditions have been described in the individual NHEXAS sample collection protocols. This protocol has been prepared to provide a simple summary of storage conditions for all field samples. It will provide a quick reference source for the field staff.

2.0 SAMPLE STORAGE IN PARTICIPANT HOMES

Listed below are the samples that will be stored for some period of time at the participant home before retrieval by the field staff. Storage conditions are listed for each sample type.

2.1 Standing water samples are stored in the participant refrigerator immediately after collection.

2.2 Urine samples are stored in a staff-provided plastic box in the participant's freezer immediately after collection.

2.3 Food and beverage samples should be placed in the staff-provided cooler as soon as possible after collection. The participant's refrigerator may also be used if necessary. Participants may be unable to immediately store foods collected away from home in a cold place. An insulated carrier may be provided by the staff for storage away from home.

3.0 SAMPLE STORAGE IN TRANSIT FROM THE PARTICIPANT HOMES

Some samples will require special storage conditions during transit after collection at the participant homes. Transit storage conditions, and any special conditions, are listed below.

3.1 The following samples should be kept cool using thermoelectric coolers or coolers with ice packs. Water and blood samples must be protected from freezing.

3.1.1 Water Samples

3.1.2 Food and Beverage Samples

3.1.3 Blood Samples

3.2 Efforts should be made to keep the urine samples frozen during transit. Urine samples must be kept cold using ice packs or thermoelectric coolers.

3.3 Efforts should be made to keep air VOC and air aerosol samples from being stored in vehicles during hot weather unless in a cooler.

4.0 SAMPLES STORAGE IN THE MOBILE LAB/STAGING AREA

4.1 Most samples will need to be stored at the field laboratory/staging area for some period of time before shipment to the analysis labs. Samples requiring refrigeration (temperatures between 1E and 6EC) are listed below. These samples may be kept in a refrigerator, or in coolers with ice packs or water ice.

4.1.1 Water Samples (VOCs and metals)

4.1.2 Dust Wipe Samples (metals)

4.1.3 Soil Samples (metals)

4.1.4 Blood Samples (VOCs, metals, archival)

4.2 Some samples will require storage in a freezer (temperature <-2EC) at the field site. These are listed below.

4.2.1 Urine Samples (metals)

4.3 Some samples will not require any special storage conditions at the field site. These are listed below.

4.3.1 Air Aerosol Samples (particles and metals) (These should not be left in hot vehicles for extended periods of time.)

4.3.2 Hair Samples (metals)

4.4 Some samples may be stored using either refrigerator (1E to 6EC) or freezer (<-2EC) temperatures. These are listed below.

4.4.1 Air VOC Samples

4.4.2 Food and Beverage Samples