STEP SIX

Reduce water flow, if possible, to a stream about the thickness of a pencil. Hold the vial at an angle and position the vial under the edge of the stream of water so that the water flows gently into the vial along the inner sidewall. When the vial is nearly full, tilt the vial to the vertical position to fill it completely, forming a meniscus (the curved upper surface of a liquid formed by surface tension) at the top of the vial. Avoid overflowing the vial too much because this could wash out the preservative.

STEP SEVEN

Carefully cap the vial (with the Teflon side of the cap liner face down in contact with the water) so that no air bubbles are entrapped in it. Roll or shake vials to fully mix ascorbic acid. If additional preservative with dilute hydrochloric acid (HCL) is required by the lab, carefully uncap vial and add 4 drops of HCL to each vial. NOTE: HCL may cause burns so use proper eye, hand, and clothing protection.

STEP EIGHT

Repeat steps six and seven for the second vial. If you are sampling from more than one sample site, repeat steps three through seven for each site.

STEP NINE

When you are ready to ship samples, place sample vials, the "FIELD BLANK," insulating material, frozen refrigerant pack, and the completed "chain of custody" and sample information forms into the foam container and ship to the laboratory within 24 hours. Make sure there is some insulating material between the vials and the refrigerant pack.

If you have questions about sampling collection procedures, contact your regional office:

Southwest Region: Tumwater
(360) 236-3030

Northwest Region: Kent
(253) 395-6750

Eastern Region: Spokane Valley
(509) 329-2100

If you need this publication in an alternate format, call (800) 525-0127. For TTY/TDD, call (800) 833-6388.

TOTAL TRIHALOMETHANE (TTHM) SAMPLING PROCEDURE

July 2003
DOH PUB #331-226

Washington State Department of Health
DIVISION OF ENVIRONMENTAL HEALTH
OFFICE OF DRINKING WATER

TOTAL TRIHALOMETHANE (TTHM) SAMPLING PROCEDURE

This brochure provides general information on how to collect a sample for Total Trihalomethanes. Steps and procedures can vary depending on the laboratory that is used so you should follow the instructions that are provided by the laboratory you are using.

Generally the sample kit contains:

- One or more chemical cold packs (i.e., blue ice)
- One 40-ml vial labeled “FIELD BLANK” filled with VOC-free water. DO NOT OPEN THE FIELD BLANK VIAL; it serves as an indicator of contamination which may occur during sample transport or storage.
- Two 40-ml vials for each site to be sampled for TTHM. Each vial contains 25 mg of ascorbic acid for neutralizing chlorine.
- Insulating material to protect vials from frozen refrigerant pack
- One sample information sheet for each sample to be collected
- One extra 40-ml vial containing ascorbic acid (Vitamin C)
- Kit may also contain a small bottle of dilute hydrochloric acid.

The general sampling procedure for TTHM monitoring is as follows:

STEP ONE

Freeze the chemical cold pack before collecting samples.

STEP TWO

Locate sampling site(s) at the extreme end of the distribution system, or use the sites identified in your Distribution Byproducts Monitoring Plan. Note: TTHMs are only taken from chlorinated systems.

STEP THREE

Remove any attachment from the tap such as hoses, filters, screens, or aerators.

STEP FOUR

Flush the water for about 10 minutes or until the water temperature reaches a constant temperature.

STEP FIVE

While the water is running, and before collecting the sample, fill out COMPLETELY the laboratory form and the sample label. Laboratory forms vary, but the following information is very important to complete for each sample:

- Water System ID number
- Water System name
- DOH source number–leave this blank as these samples are not source samples.
- Sample type and sample purpose (usually “RC” for routine compliance)
- Collection date and time the sample was taken
- Sample location (specific location where the samples were collected, such as an address or sampling station code)
- System type (i.e., Group A or B)
- Sample type (i.e.,pre-treatment/ raw or post-treatment/finished)