

# Tips to Optimize Field Practices and Procedures

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## Collecting Samples for Environmental Analysis



### Personal Protective Equipment (PPE)

- Customers are responsible for providing appropriate PPE for the sampling project.
- To avoid cross-contamination, a NEW set of gloves should be worn for each sample being collected.

Always label sample containers using a waterproof ink pen before you fill the container.

**BEFORE YOU SAMPLE:**  
No smoking. No pumping gas.  
No hand sanitizer. No solvents.

## How to Pack a Cooler



### Tip 1: Sample temperature should be <math><10^{\circ}\text{C}</math>

- Temperatures ABOVE this guideline are accepted with no FLAG issued if the samples are submitted the SAME day they are sampled and an effort was made to cool samples prior to drop-off by including loose ice in re-sealable bags.

### Tip 2: Process Flow

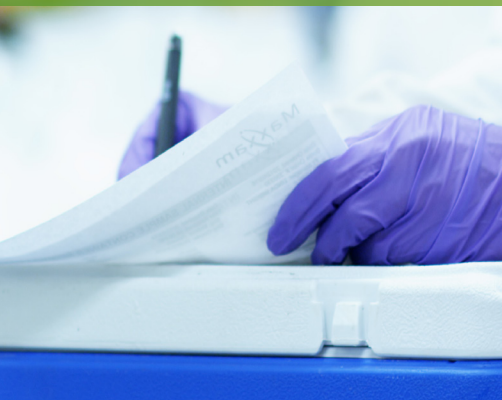
- BEFORE packing in the cooler, place each glass sample container in the appropriate bubble bag and seal, then place the glass container in a re-sealable bag.
- If they have the same sample ID (i.e. when you need 3 vials for a particular analysis) you can pack more than one container in a re-sealable bag, but keep the sample IDs TOGETHER.

- REMEMBER to record the time sampled, analysis required, and any other details on the COC.
- Do NOT wait until all the samples are completed before you start filling the cooler.

### Tip 3: Health & Safety

- When organizing the cooler for final shipment, ALTERNATE between sets of glass containers and plastic containers to minimize risk of breakage.
- A full cooler should WEIGH no more than 18 kg (40 lbs).
- Include a MAXIMUM of six 1L Amber glass bottles in a cooler. This minimizes the risk of breakage and helps ensure total cooler weight does not exceed the guideline.
- All bottles should be packed VERTICALLY (not laid on their side).

## How to Complete a Chain of Custody (COC)



### Tip 1: Number of Samples

- Make sure the TOTAL number of samples in the cooler is consistent with those recorded on the COC.

### Tip 2: Quality Control

- Record trip blanks / trip spikes / field blanks on the COC the same way regular samples are recorded.
- If a custody seal is used, ensure it is INTACT, SIGNED, and DATED.
- ADD an additional layer of tape over the custody seal.

### Tip 3: Two Legible Copies of the COC

- A COC is made up of two copies, ensure both are legible.
  - Top copy: accompanies custody records and is retained by Maxxam
  - Bottom copy: returned to the customer for their records



## How to Collect VOC Water Samples with no Headspace

Hold Times: 14 days

### Tip 1: Avoid Cross-Contamination & Splashing

- NEVER place the end of the sampling apparatus inside the vials.
- Avoid splashing.
- When FILLING the vials, aim sample water at the walls of the vial.

### Tip 2: Discard Overfilled Vials

- If you overfill a vial, DISCARD it and start over. Do NOT use the overfilled vial as the preservative will be diluted and subsequent analysis/measurements WILL not be accurate.



## How to Collect Soil Samples for BTEX/F1 Analysis

Hold times: Methanol vials (14 days) & Hermetic device (48 hours)

### Tip 1: Avoid Cross-Contamination

- Sampling plungers are for SINGLE use only.

### Tip 2: Moisture Content Characterization

- A 60mL jar of sample soil is REQUIRED to accompany all BTEX/F1 and VOC samples for moisture content characterization.

- Label this jar with the SAME sample identifier as the BTEX/F1/VOC sample for which it is collected
- If an F2-F4 sample is also collected from the same sample location as the BTEX/F1/VOC sample, no moisture content jar is required as MC analysis may be performed from a subsample of the F2-F4 jar.



## How to Collect Soil Vapour with a Thermal Desorption (TD) Tube

Hold times: 7 days

### Tip 1: Avoid Dust

- Always AVOID getting dust into the TD tube as this will interfere with the analysis. If sampling in a dusty area, Maxxam can provide a pre-filter to attach to the TD tube.

### Tip 2: Sample Flow Rate

- Sampling flow rate should be BETWEEN 0.01-0.2L/min.

### Tip 3: Labelling TD Tubes

- NEVER label or mark directly onto the TD tubes as this could introduce contamination.

### Tip 4: Serial Number

- Always remember to RECORD the TD tube serial number for each sample.



## How to Collect Soil Vapour with a Summa Canister

Hold times: 30 days (Air transport allowed)

### Tip 1: Serial Numbers

- Always RECORD Serial Numbers for regulator and canister.

### Tip 2: Check the Vacuum

- CHECK the vacuum of the summa canister with a separate gauge prior to sampling (should be: -28 to -29 inHg (inches of Mercury)).

### Tip 3: Never Use Teflon Tape

- Do NOT use Teflon tape when connecting the tubing in the assembly.

