

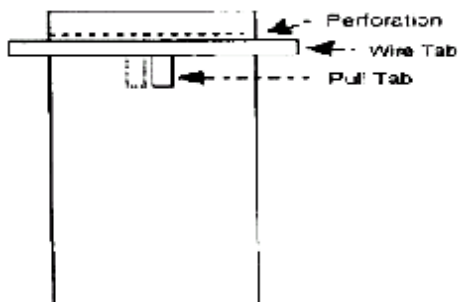
## Grab Sample Field Standard Operating Procedure

### Field SOP for Taking a Grab Sample

#### Grab Sampling SOP

Use the same location each time. In general, sample away from the riverbank in the main current. Never sample stagnant water or backwater eddies. Collection sites should be located in relatively straight channel reaches where the flow is uniform. Collecting samples directly in a riffle or from ponded or sluggish water should be avoided. The outside curve of the stream is often a good place to sample, since the main current tends to hug this bank. In shallow stretches, carefully wade into the center current to collect the sample. If your goal is to find affects of structures and pollution, take an upstream and downstream sample at least 50 feet away from the disturbance, as well as one directly at the disturbance site.

#### How to Use Whirl-pak® Bags



#### **If you do not have a Whirl Pak bag:**

Use an empty plastic bottled water container. Clean it with a phosphate free detergent, and rinse several times to be sure to get all residue out. Rinse the bottle three times with the water to be sampled. Grab your sample and label it as indicated below.

1. Label the bag with the site ID, date, and time. Tear off the top of the bag along the perforation above the wire tab just prior to sampling. Avoid touching the inside of the bag.
2. *Wading.* Try to disturb as little bottom sediment as possible. Also avoid capturing debris floating on the surface. Hold the two white pull tabs in each hand and lower the bag into the water on your upstream side with the opening facing upstream. Open the bag midway between the surface and the bottom by pulling the white pull tabs. You may need to "scoop" water into the bag by drawing it through the water upstream and away from you. Fill the bag between 1/3 and 3/4 full.
3. *Bucket or Pole:* Rinse the device twice with the water to be sampled. Try to avoid bottom sediment. Do not introduce any meters or hands into the sample. Pour from the device directly into the whirl pak bag.
4. Lift the bag out of the water. Pour out excess water. Pull on the wire tabs to close the bag. Continue holding the wire tabs and flip the bag over at least 4-5 times quickly to seal the bag. Don't try to squeeze the air out of the top of the bag. Fold the ends of the wire tabs together at the top of the bag, being careful not to puncture the bag. Twist them together, forming a loop.
5. If samples are to be analyzed in a lab, place the sample in a cooler with cold packs. Holding time for nutrients and turbidity is 48 hours, so submit samples to CCWI office as soon as possible.

## **Bacteria Sampling SOP**

**Sampling Container:** Use a sterile, 100 ml flip top plastic vials. Whirl Paks are also sterile, but need extra caution when sampling.

**Aseptic Methods:** Never let anything, hands, sticks or instruments, enter the vessel or touch the vessel lid or rim. All bacteria must be kept out. Use of surgical gloves is best, though in good flowing water a bare hand is OK. Never use a sampling device such as a bucket or pole unless it has been sterilized.

**If sampling from a faucet,** remove all screens from the faucet. Pass a flame from a hand held lighter over the faucet head for several seconds, sterilizing the faucet. Additionally/alternatively an alcohol wipe may be used. Open the tap, and let it run for 5 minutes to get the "main line" water. Fill the sample container to at least the 100mL line, but leaving some room for air. Snap the lid back on, pushing the rectangular lock into place. For chlorinated systems, a sodium thiosulfate tablet should be used to neutralize chlorine.

**If sampling from a stream,** sample facing upstream. If the water is very sluggish, consider sampling from the bank to avoid contaminating the water. If there is a sodium thiosulfate tablet inside (neutralizes chlorine), throw the tablet out. Snap the triangular tab up to open the lid. Immediately grab fill the vial to at least the 100 mL line, but do leave some room for air. Avoid surface debris and bottom sediment. Snap the lid back on, pushing the rectangular lock into place.

**Handling:** Label the sample with site ID, time and date. Place it into a sealable plastic sandwich bag if available before placing into a cooler with blue ice (avoid free ice, which could lead to contamination). The sample should be processed within 6 hours of sampling, so get it back to CCWI within 5 1/2 hours. Keep the sample cool, but not frozen, as freezing can kill bacteria.