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## Sampling Instructions for Aqueous Samples

FGL provides the appropriate containers, labels, chain of custodies, ice chests and blue ice at no charge. All samples should be cooled to approximately 4E C prior to shipping to the laboratory. A list of proper holding times and preservation techniques is available upon request. **If you have any questions concerning the containers or sampling techniques please call.** Please do not rinse out containers provided by FGL prior to filling. The containers are labeled as to the type of sampling.

### **Type 1 - Semi-volatile Organics, Inorganics, and Radio Chemistry (except Radon):**

- 1) Fill the sample container to the top and cap.

### **Type 2 - Volatile Organics:**

- 1) Fill the sample containers (two VOA vials) until there is a raised portion of water above the rim of the vial and cap carefully. It helps to run the water very slowly.
- 2) After capping, invert the sample vial, tap the vial, then check for bubbles (headspace).
- 3) If bubbles are present repeat sampling until no bubbles are observed. Having no headspace is very important to the overall quality of the analytical results.

### **Type 3 - Bacteriology:**

#### **Source sampling (testing the well) -**

- 1) Selecting a spigot closest to the well and run the water for approximately 5 minutes. If only air is vented, turn on spigots after the holding tank to drop the holding tank pressure which should turn on the pump. The well pump should turn on and run through at least one cycle.
- 2) If the spigot is not frequently used it should be flamed with a propane torch or wiped with bleach and run the water again for 1 minute (longer for very contaminated spigots).
- 3) Please take care opening the sample container and do not remove the powder or pill inside. Permit only the water sample to contact the inside of the bottle and cap.
- 4) Fill the sample container to slightly more than the 100 mL line. This will insure adequate sample volume and enough headspace for mixing.
- 5) Because the analysis needs to be started as soon as possible (maximum time is 8 hours). Please keep the samples cool and ship or deliver to the lab as soon as possible.

#### **System sampling (testing plumbing and faucets away from the well) -**

- 1) If possible, select a tap in frequent use. If the tap has an aerator screen it will need to be removed.
- 2) Turn on the faucet and allow the water to run for approximately 5 minutes.
- 3) If the spigot is not frequently used it should be flamed with a propane torch or wiped with bleach and run the water again for 1 minute (longer for very contaminated spigots).
- 4) Please take care opening the sample container and do not remove the powder or pill inside. Permit only the water sample to contact the inside of the bottle and cap.
- 5) Fill the sample container to slightly more than the 100 mL line. This will insure adequate sample volume and enough headspace for mixing.
- 6) Because the analysis needs to be started as soon as possible (maximum time is 30 hours). Please keep the samples cool and ship or deliver to the lab as soon as possible.

#### **Reservoir and stream sampling -**

- 1) Tilt the bottle approximately 45 degrees and hold at the base. In a scooping motion, move the bottle away from you, mouth first, as you fill the bottle.

- 2) Please take care opening the sample container. Permit only the water sample to contact the inside of the bottle and cap.
- 3) Fill the sample container to slightly more than the 100 mL line. This will insure adequate sample volume and enough headspace for mixing.
- 4) Because the holding time is 8 hours please ship or deliver to the lab as soon as possible.

**Type 4 - Radon:**

Radon is a gas and emanates quickly from agitated water. The hold time for regulated water is 4days. (8d for non-Reg.) Proper collection techniques and handling of the Radon sample is critical for valid data to be obtained. For best results follow the instructions listed below:

- 1) Sample by slowly run water from a hose into a 2 liter container until it overflows for 5 minutes. The water entering the container should be as free as possible of bubbles.
- 2) Fill 2 x 125 mL Boston round or 2 x 40 mL VOA vials under water by placing the hose into the bottle, taking care to release all of the air bubbles. Cap tightly under water.
- 3) Take the sample from container and turn it upside down to check for bubbles. If necessary, repeat sampling until no bubbles are observed.
- 4) Dry sample container and place electrical tape around cap.
- 5) Record time and date of the duplicate samples.
- 6) Pack in a cool ice chest and ship NEXT DAY AIR to the laboratory for analysis.

**Other considerations for proper sampling:**

- X Make an accurate record on the chain of custody of every sample collected. Identify every container by attaching an appropriately inscribed tag or label which corresponds to the record on the chain of custody.
- X Before collecting samples from a distribution system, be sure to flush lines sufficiently to insure that the sample is representative of the supply.
- X Before sampling from a well, be sure to run the pump long enough to insure that the sample represents the groundwater source.
- X When samples are collected from a river or stream, analytical values may vary with depth, stream flow, and distance from shore and channel width. If equipment is available, take and Aintegrated@ sample from top to bottom in the middle of the stream in such a way that the sample is composited according to time or flow. If only a grab or catch sample can be collected, take it in the middle of the stream and, if possible, at mid-depth.
- X Lakes and reservoirs are subject to considerable variations from normal influences such as seasonal stratification, rainfall, runoff, and wind. Choose the location, depth and frequency of sampling based on local conditions and the purpose of the investigation. Avoid surface scum.

**Well Cleanup Procedure for Bacterial Contamination:**

- X FGL has a written procedure to help you through the well cleanup process. Please call to obtain a copy of this procedure.