

## How To Take A Water Sample

Water analyses can only be accurate if the sample is taken correctly. When collecting a water sample, please follow these simple guidelines:

### WORK ORDER

Prior to taking a sample, complete a work order form indicating the appropriate water tests to be performed. Submit the work order to [todd.sink@tamu.edu](mailto:todd.sink@tamu.edu) prior to sample submission, or place the form in the shipment along with the water sample. **No analyses can be performed prior to receipt of a completed work order by the Aquatic Diagnostic Laboratory.**

### CONTAINERS

Samples should be collected in a new clean, plastic bottle with a screw cap. 16-20 ounce drinking water bottles can be reused if you rinse the bottle three times with the water source to be submitted to the laboratory. Please note that a minimum of 1.5 gallons is required for the water clearing test, while 16 ounces is sufficient for all other tests. Insure the cap is tight prior to shipping. Please note that the lab does not test for bacteria, pesticides, or petrochemicals unless these services are clearly requested on the work order and these services are not included in the price of the basic water test. Clearly identify each bottle with a simple sample I.D. using the last name, date, source format (i.e. Smith, 4/19/2012, well). When mailing, place bottles in a box and pack with a loose, soft packing material such as newspaper to prevent damage from rolling or shaking. Samples in glass containers have higher potential for breakage and therefore will not be accepted and tests will not be conducted.

### COLLECTING A SAMPLE

When collecting a water sample, be sure not to disturb any sediments prior to or during sample collection. Sediments picked up along with the water sample will potentially change the water chemistry and results of the water tests will not be accurate. The water sample is acceptable "as is" if sediment is already suspended in the water column despite no disturbance from the collection process. Also, make sure the sample bottle contains no vegetation, insects, snails, tadpoles, small fish or other organisms, as they will change the water chemistry and the result of the water test will not be accurate. To collect a sample, place a thumb over the mouth of the empty collection bottle, place the bottle 6" to 24" below the surface of the water, and remove your thumb allowing water to fill the sample bottle. Make sure all the air has been removed from the bottle and place the cap on the bottle before removing it from the water. Check the sample to determine that no air is trapped inside the bottle. If air is trapped inside the bottle, empty the bottle and repeat the process again.

### FISHERIES (PONDS AND LAKES) AND AQUACULTURE

Provide as much written information as possible about the condition of the tank (flow through or recirculation) or pond along with the sample. If fresh water is being added or running into the tank or pond, collect the sample in the area least affected by the addition of the fresh water. When samples are taken from salt-water systems or ponds where fresh water may have been added, gather water from both the top and bottom of the pond. The lab cannot test for dissolved oxygen or free carbon dioxide, even though both of these gases can affect fish mortality. These substances must be tested on-site, and kits for conducting these tests are commercially available.

## WELL WATER

Let the well pump operate ten minutes to an hour before taking the sample. Take the sample as close to the pump as possible.

## ASSESSING WATER PROBLEMS

Two separate water samples may be required to address water related problems due to plumbing and/or fixtures. One sample should be collected at the point of entry (well or water service) and another at point of use (tank, pond, etc.). This sampling method will help pinpoint problematic plumbing.

## TOXICOLOGY TESTING

If a toxin(s) is suspected in a fish mortality case or simply to be in the water due to natural causes or chemical spills/drift, then a water sample (and fish samples if mortalities occur) should be immediately collected and frozen to prevent decay or breakdown of the potential toxins. The samples should be shipped on sufficient dry ice to keep them frozen, and a work order must be submitted clearly identifying that toxicology testing is requested. The ADL will then contact you about specific compounds or categories are suspected or you would like tested. The compounds the ADL can test for include:

- Arsenic
- Boron
- Chlorine (free, total)
- Chromium
- Copper (free, total)
- Cyanide
- Detergents
- Ethylene glycol (anti-freeze)
- Hydrazines [herbicides (triazole, metribuzin, paclobutrazol, credazine, pyridafol, pyridate), systemic fungicides (triadimefon, propiconazole) anti-fungal and anti bacterial compounds]
- Hydrogen sulfide
- Iron (ferrous)
- Iron (total)
- Lead (total)
- Manganese
- Metals bundle (copper, manganese, iron)
- Metals plus heavy metals bundle (copper, lead, manganese, arsenic, chromium, iron)
- Nitrate
- Nitrite
- Pesticides bundle (triazoles, hydrazines, phenols, detergents)
- Phenols [coal tar, petroleum, disinfectants, antiseptics, auxin herbicides (MCPA; 2,4-D; 2,4,5-T), detergents, endocrine disruptors]
- Sulfates
- Sulfites
- Total ammonia nitrogen and un-ionized ammonia
- Triazoles (3-Amino-1,2,4-triazole herbicides, fungicides)

## PAYMENT

Please do not include payment with samples submitted to the lab. You will be billed by Texas A&M

AgriLife upon receipt of the work order and sample.

SHIPPING INFORMATION:

**Aquatic Diagnostic Laboratory**

**Dr. Todd Sink**

**534 John Kimbrough Blvd.**

**TAMU 2258, Building 1537**

**College Station, TX 77843-2258**