Tier 2 Sampling Instructions – *Multiprobe Calibration and Data Collection*

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Supplies:
Multiprobe, tablet, or datalogger, deionized water, calibration sheet, calibration standards (pH and conductivity), waste bottle, calibration cup and guard (should already be with your multiprobe), field data sheet, pen/pencil.

Instructions for Hydrolab use are in the DWQ SOPs: a link provided at the bottom of the manual.)

General Probe Best Practices:

Calibration:

1. Calibrate within 24 hours prior to sampling, best done before going out in the field.
2. Calibrate for each sensor you will be using (conductivity, pH and dissolved oxygen).
   a. Rinse with deionized water (DI) once, followed by the next standard you will be using. Rinse an additional two times with standard, for a total of three, before calibrating. Triple rinsing will be a common procedure in many of the SOPs you encounter.
   b. Ensure probes are fully submerged in the buffer solutions
   c. Enter calibration mode on your handheld.
   d. Start with Conductivity (**SpCond**) and use a solution that is closest to your expected measurement (a common standard is 1413 or 500 uS/cm).
   e. pH – use 2 point calibration that buffers the expected measurement (i.e. your water measures generally around 8 pH, be sure you calibrate with 7 and 10 pH).
   f. Dissolved oxygen, use saturated air to calibrate to 100% sat. Use a damp sponge or a half inch of water in the calibration cup. If the cup screws on, be sure the cup is loose. Some probes may require knowing the barometric pressure.
   g. Temperature cannot be calibrated, but is good to do a check against a NIST certified thermometer to make sure the equipment is working properly.
3. Document all buffers and readings on the calibration sheet provided.
4. Perform a check after calibration by taking a reading in a different conductivity solution, pH solution and double check the dissolved oxygen in saturated air. Conductivity reading should be within ±10% of the expected value and the pH and dissolved oxygen should be within ±5% of the expected value.

Data Collection:

1. Turn on the multiprobe and position the meter in the thalweg (main streamflow); or along a bank/edge in the flow if the waterbody is too

deep or fast; or lower from a bridge. Ensure the measurements are upstream of other sampling activity, in well mixed water and avoid disturbing bottom sediments.

2. Wait 1-2 minutes for the values to settle and record them on the data sheet provided.

When finished sampling, make sure the meter is rinsed thoroughly and properly stored in the cap with a damp sponge or tap water.

Utah Division of Water Quality Standard Operating Procedure (SOP) for Calibration, Maintenance, and Use of Hydrolab Multiprobes.

https://deq.utah.gov/legacy/monitoring/water-quality/docs/2014/05May/SOP_Hydrolabs_5.1.14_Rev0.pdf