GLOBE Electrical Conductivity Data Sheets

Print the Electrical Conductivity Data Sheet:

- Electrical Conductivity Data Sheet

Or select an alternative option below: :

- Electrical Conductivity: New Site (2 pages)
  - Use this the first time you visit a sampling site to record site definition data.
- Electrical Conductivity: Weekly Measurements
  - This data sheet has space to record weekly conductivity measurements.
- Electrical Conductivity with field guide
  - This data sheet has the field guide incorporated.

GLOBE Electrical Conductivity Data Sheet

Name: _____ Site Name: _____

Date: _____ Time (local): _____

Water State: ☐ Normal ☐ Flooded ☐ Dry ☐ Frozen ☐ Unreachable

If anything except Normal is selected, stop here!

Temperature of water sample being tested: _____ °C

Conductivity of standard: _____ µS/cm

Electrical Conductivity Measurements

Sample #1: _____ µS/cm

Sample #2: _____ µS/cm

Sample #3: _____ µS/cm

Average: _____ µS/cm

Stop and Check:

Are all measurements within 40 µS/cm of the average? If not, pour a fresh sample and repeat the measurements and calculate a new average.

Comments:

GLOBE Electrical Conductivity Data Sheet: New Site (page 1)

Name: _____ Site Name: _____

Date: _____ Time (local): _____

New Site Definition

Latitude: _____ Longitude: _____

Elevation: _____ m

Name of Water Body: _____

Water Body Type: ☐ Unknown ☐ Saltwater ☐ Freshwater ☐ Brackish

Water State: ☐ Normal ☐ Flooded ☐ Dry ☐ Frozen ☐ Unreachable

If anything except Normal is selected, stop here!

Temperature of water sample being tested: _____ °C

Conductivity of standard: _____ µS/cm

Electrical Conductivity Measurements

Sample #1: _____ µS/cm

Sample #2: _____ µS/cm

Sample #3: _____ µS/cm

Average: _____ µS/cm

Stop and Check:

Are all measurements within 40 µS/cm of the average? If not, pour a fresh sample and repeat the measurements and calculate a new average.

Comments:

GLOBE Electrical Conductivity Data Sheet: New Site (page 2)
Optional Site Definition Information

Water Body Source: _____

Can you see the bottom? ☐ Yes ☐ No

Water Sampling location:

☐ Outlet ☐ Bank ☐ Bridge ☐ Boat ☐ Inlet ☐ Pier

Channel/Bank Material:

☐ Soil ☐ Rock ☐ Concrete ☐ Vegetated Bank

Bedrock:

☐ Granite ☐ Limestone ☐ Volcanics ☐ Mixed Sediments ☐ Unknown

Freshwater Habitats Present:

☐ Rocky Substrate ☐ Vegetated Bank ☐ Mud Substrate ☐ Sand Substrate
☐ Submersed Vegetation ☐ Logs

Saltwater Habitats Present:

☐ Rocky Shore ☐ Sandy Shore ☐ Mud Flats/Estuary

If the water body source is a **river** or **stream**:

Width of moving water: _____ meters

If the water body source is a **pond, lake, reservoir, bay, ditch** or **estuary**:

Area of standing water: _____ km^2

Average depth of standing water _____ meters

GLOBE Electrical Conductivity Data Sheet: Weekly

Name: _____ Site Name: _____

Temperature of water sample being tested: _____ °C

Conductivity of standard: _____ µS/cm

Electrical Conductivity Measurements

*Water State Options: N = Normal, Fl = Flooded, D = Dry, Fr = Frozen, U = Unreachable.

If anything except Normal is selected, do not collect measurements.

Date	**Time (local)**	**Water State***	**Sample 1** (µS/cm)	**Sample 2** (µS/cm)	**Sample 3** (µS/cm)	**Average** (µS/cm)

Comments:

Stop and Check: Are all measurements within 40 µS/cm of the average? If not, pour a fresh sample and repeat the measurements and calculate a new average.

GLOBE Electrical Conductivity Data Sheet and Field Guide (page 1)

Name: _____ Site Name: _____

Date: _____

In the Lab: Electrical Conductivity Meter Calibration

1. Bring the standard solution to room temperature (about 25°C).
2. Put on protective gloves and goggles.
3. Pour standard solution into each of the two clean 100-mL beakers or cups to a depth of about 2 cm.
4. Remove the cap from the electrical conductivity meter and press the On/Off button to turn it on.
5. Rinse the electrode at the bottom of the meter with distilled water in the wash bottle.
6. Gently blot dry with a tissue. Note: Do not rub or stroke the electrode while drying.
7. Put the probe of the meter into the first beaker of standard. Stir gently for 2 seconds to rinse off any distilled water.
8. Take the meter out of the first beaker. Do NOT rinse with distilled water.
9. Put it into the second beaker.
10. Stir gently and then wait for the numbers to stop changing.
11. If the display does not read the value of your standard solution, you must adjust the instrument to read this number. (For most meters, you can use a small screwdriver to adjust the calibration screw on the meter until the display reads the standard value.)
12. Record the conductivity of the standard below.

Conductivity of standard: _____ µS/cm

13. Rinse the electrode with distilled water and blot it dry. Turn off the meter and put the cap on to protect the electrode.
14. Pour the standard from the beakers into a waste container. Rinse and dry the beakers.

In the Field: Electrical Conductivity Measurements

Time (local): _____

Water State: ☐ Normal ☐ Flooded ☐ Dry ☐ Frozen ☐ Unreachable

If anything except Normal is selected, stop here!

GLOBE Electrical Conductivity Data Sheet and Field Guide (page 2)

In the Field: Electrical Conductivity Measurements Continued

1. Put on protective gloves and goggles.
2. Record the temperature of the water to be tested below. If water is between 20˚ – 30˚ C, go to step 4.

Temperature of water sample being tested: _____ °C

3. If your water is below 20˚C or above 30˚C, fill a clean sample bottle (600-700 mL) with the water to be tested. Cap and bring back to the lab. Allow the water to reach 20˚ – 30˚C, record the temperature above and then proceed to step 4.
4. Rinse two 100-mL beakers two times with sample water.
5. Pour about 50 mL of water to be tested in each of the two beakers.
6. Remove the cap from the probe end of the meter. Press the On/Off button to turn it on.
7. Rinse the probe with distilled water. Blot it dry. Do not rub or stroke the electrode while drying.
8. Put the probe in the water sample in the first beaker. Stir gently for a few seconds. Do not let the meter rest on the bottom of the beaker or touch the sides.
9. Take the probe out of the first beaker. Shake gently to remove excess water, then put it into the second beaker without rinsing with distilled water.
10. Leave the probes submerged for at least one minute. When the numbers stop changing, record the value below.

Sample #1: _____ µS/cm

11. Have two other people repeat the measurement using fresh beakers of water each time. The meter does not need to be calibrated again. Record these measurements below.

Sample #2: _____ µS/cm

Sample #3: _____ µS/cm

12. Calculate the average of the three observations.

Average : _____ µS/cm

13. **Stop and Check:** Are all measurements within 40 µS/cm of the average? If not, pour a fresh sample and repeat the measurements and calculate a new average.
14. Rinse the probe with distilled water, blot dry and put the cap on the meter. Rinse and dry the beakers and sample bottle.

Comments: