Turbidity and Secchi Disk Depth: Principles

Turbidity is a measurement of water cloudiness caused by suspended matter.

- Turbidity can result from soil erosion and runoff that causes water to be *brown*; this is called **clay turbidity** (see photo at right)**.**
- Turbidity can also result from tiny suspended plants in water (algal blooms) that causes water to be *green*; this is called **plankton turbidity.**
- High turbidity limits sunlight penetration in water, inhibits growth of aquatic plants, and can upset aquatic ecosystems.
- High clay turbidity is an indication of soil erosion which leads to sedimentation of streams, rivers, lakes and reservoirs. This is considered to be Alabama's number one water pollution problem!

The AWW test kit measures turbidity in Jackson Turbidity Units (JTUs). Other instruments may be used to measure turbidity in Nephelometric Turbidity Units (NTUs). ADEM turbidity standards are in NTUs. There is **no direct relationship** between JTUs and NTUs.

In lakes, ponds and estuaries, the **Secchi disk** is used to measure water clarity.

- The Secchi disk is a 20-centimeter (8 inch) diameter disk with black and white quadrants and an attached line marked in increments of meters and half-meters.
- Secchi disk depth is the distance (in meters) from the surface of the water to the greatest depth at which the disk is still visible.