



Stratigraphy

The physical and biological makeup of a reservoir, particularly in relation to the growth of algae, is critical in assessing the best depth to draw or pump out a “layer” of reservoir water. It must go through the appropriate Inlet/Outlet Tower valve that is the most algae free and at the same temperature. Little or no algae growth means less potential taste and odor problems at the treatment plant. Water must also be pumped “into” the lake at a level or gradient of equal temperature.

You will need:

- One cup of **cold** water mixed with 1-2 drops of yellow food coloring.
- One cup of **hot** water mixed with 1-2 drops of blue food coloring.
- Empty clear glass or test tube.
- Pipettes (eye droppers).

Get started:

1. Predict which liquid will layer on top, hot “blue” water or cold “yellow” water and explain why they think so.
2. Use the pipette or eyedropper to add approximately 5ml of cold “yellow” water to clear glass or test tube.
3. Carefully add approximately the same amount of hot “blue” water to the same glass or test tube.
 - a. Note: hold the test tube at an angle and “gently” dispense the hot liquid down the side of the test tube (so as not to mix the two colored waters).
4. What are you observing?
5. What is happening to the water molecules in the two layers?
6. What is happening to the two layers where they meet in the middle (this would be the “thermocline”)
7. What do you think the results would be if the colored water were added in reverse order?