**Density Current Experiment: Results Sheet**

Experimental Setup:

H

Lock gate

L

1. Calculate the volume of water behind the lock gate.

Measurements: (a) depth of water H =

 (b) width of tank W =

 (c) length (to lock gate) L =

1. Calculate the mass of salt required (in grams) so that the water behind the lock gate is 0.5% denser than the water in the rest of the tank.

**Useful information**: A 0.5% density excess requires adding 7 grams of salt per litre of water.

1. Conduct the experiment.

Measurements: (a) height of density current D =

 (b) distance using for (c). d =

 (c) time taken to move distance d. t =

Notes:

1. Use your measurements to calculate the speed of the density current.

1. How does your measured value compare with the theoretical speed? The theoretical speed is calculated from:
$$U=\frac{1}{2}\sqrt{\left(gD\left(\frac{∆ρ}{ρ}\right)\right)}$$

where g = 9.8 ms-2, and ${∆ρ}/{ρ}$=0.005