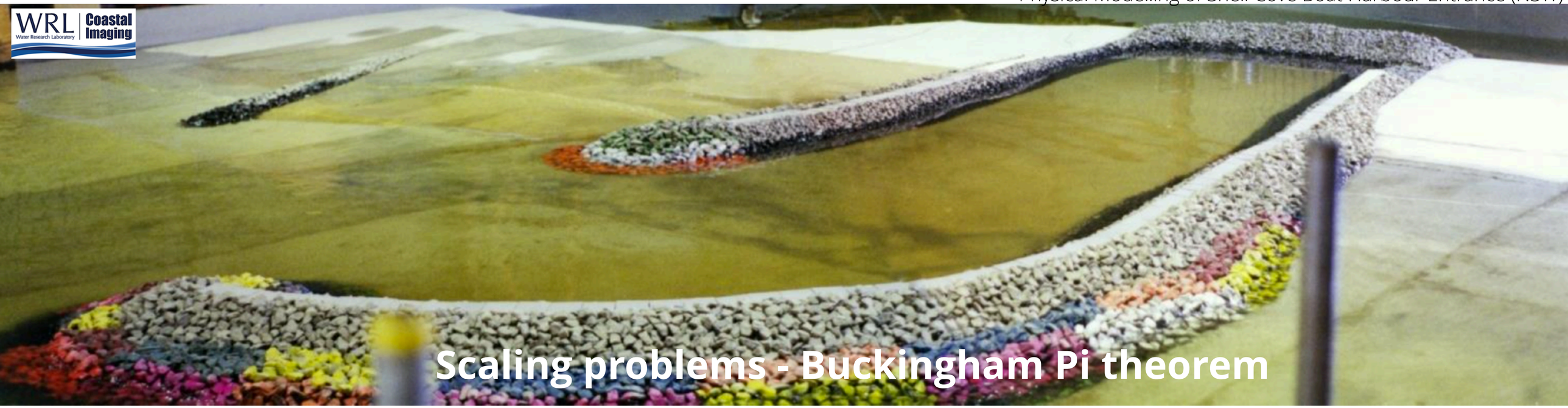
Physical modelling: laboratory models

Physical Modelling of Shell Cove Boat Harbour Entrance (NSW)



- For the **π** to be dimensionless we need to have:

$$k1+k2+k3-3k4-k5+k6 = 0$$

$$-k1-2k3-k5-2k6 = 0$$

$$k3+k4+k5 = 0$$

- each dimensionless which be a combination of **k** satisfying the set of equation below.

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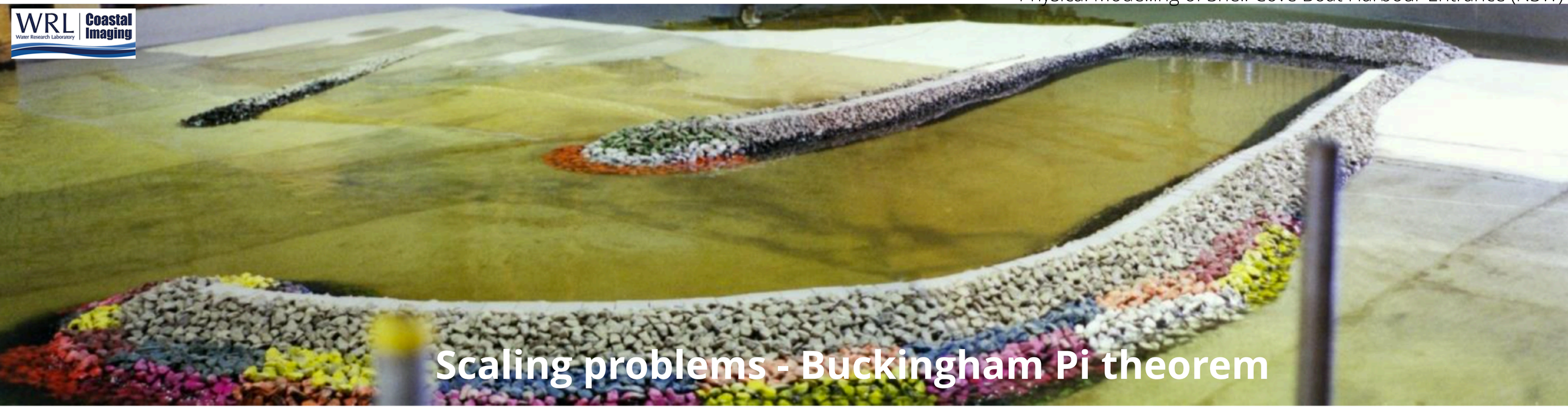

- Reynolds number : inertial forces / viscous forces

$$\pi_1 = V^1 L^1 F^0 \rho^1 \mu^{-1} g^0 = V L \rho / \mu = Re$$

Equality in Re will ensure that viscous forces are correctly scaled