

Remediation of soil and groundwater
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Problem set #0: dry/wet density

Problem 1

We are doing a small experiment in the lab. A soil (cylindric volume) has the following properties:

- $\omega = 2\%$
- *mass of wet soil* $M_{S,wet} = 850 \text{ g}$
- $h = 9 \text{ cm} \Rightarrow$ height of cylinder
- $d = 9 \text{ cm} \Rightarrow$ diameter of cylinder
- *solids density*, $\rho_s = 2.67 \text{ g/cm}^3$

What volume of water should be added to the soil to reach a degree of saturation (volume of water/volume of void) of 90%?