Improving FSM investment decisions by estimating total solids from rapid in-situ penetrometer tests

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Mott MacDonald, Water for People, GIZ
What influences investment cost?

- Treatment and transport costs highly dependent on volume of sludge
- Volume dependent on total solids

FS volume as a function of total solids content
Can shear strength be used as a proxy?

Field work using portable penetrometer
**Initial Data**

Mixed unlined/lined pits

$R^2 = 0.4068$
Full Dataset

All pits

- GIZ data (unlined)
- WfP data (mixed)
Things to note:

- Dataset collected in very little time
- Unintentional focus on unlined pits

So what next?

- Links to wider work on sludge characterisation
- Would disaggregating data improve correlation?