



CASE STUDY

The customer gained confidence that the **SDM can take over** the density reading and eliminate the need for **manual sampling**.

Introduction

The customer had to drill a new 200-meter sewer for their project. 'Clean mud' (water with Bentonite) is pumped from the clean mud tank into the drilling pipe and escapes at the drilling head during drilling. The 'dirt mud' is reappearing in the drilling well (starting point of drilling). When the drilling well is almost full, it will be pumped into the Recovery Unit (RU), where the 'Mudmasters' will optimize the Bentonite recovery. The sand particles are being absorbed by bentonite. As sand does not mix well with water, but Bentonite does, this process went very smoothly thanks to the bentonite. One bentonite particle can be recovered five times. The Mudmaster can optimize the recovery of the mud by controlling the wt% solids.

Measuring task

Density determination of a water/solids slurry.

Pipe diameter: 150 mm (6 inch)

Pipe material: steel

Solids: 1-25 wt%

Density: 1050 -1400 g/l

Temperature: 10°C – 20°C (50°F – 68°F)

Instrument used

SDM – Slurry Density Meter, installed with the Rhosonics clamp-in.



Goal

The first goal is the removal of the manual sampling by the 'Mudmaster' and replace it with an in-line, real-time continuous density measurement to optimize the recovery process.

The second goal is to read the density after the test and determine a relationship between the percentage of solids that enter the recovery unit and the wearing of the unit. If the wt% of solids can be controlled, they can avoid excessive wear and save money on maintenance and pipe replacements for the recovery unit.

Results

During the week, the SDM values and the reference samples (taken by the Mudmaster) varied around 1% from each other. The customer gained confidence that the SDM can take over the density reading and eliminate the need for manual sampling. It will save the Mudmaster a significant amount of time. As the SDM is measuring both inline and real-time, the Mudmaster is capable of optimally controlling the recovery process. After investigation of the logging files, the maintenance manager could easily identify when the wt% solids were high and causing unnecessary wear. Due to the logging files, the Mudmaster and Maintenance Manager learned where the recovery process can be optimized next time. Also, they can also show their colleagues what the production was like during the week by plotting the data.

Further information

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