Researchers at the University of South Florida have developed an automated down-hole slurry testing device to test and track proper slurry performance in drilled excavations.

Slurry is the fluid within a drilled excavation that is introduced when an excavation is deeper than the water table or where additional stability is needed for loose sandy dry soils. Slurry properties may require adjustments as different soils are encountered to provide a minimum performance level. As a result, slurry testing is often required to track proper slurry performance. Numerous tests and types of equipment have been developed for use in the field but the test methods are slow, subject to the speed of testing/user techniques and provide only a partial profile of the slurry properties.

In order to expedite the test process and improve the quality of information obtained, our inventors have developed an automated down-hole slurry testing device which uses a combination of off-the-shelf devices to record values and convert them via derived relationships to compute the desired properties continuously over the depth of the excavation.

This device helps in speeding up the process of testing and assuring that the density, viscosity, and sand content stay within the specified limits by using automatic digital down-hole devices. Our inventors have run numerous field tests and compared the device with existing methods to prove its capability and effectiveness.

**ADVANTAGES:**

- Accurate and fast
- Continuous monitoring for proper performance
- Provides complete slurry profile

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