Shaft Area Profile Evaluator

Shaft Area Profile Evaluator (SHAPE® Cabled)

Drilled Excavation Quality Control of Shaft Radius, Volume and Verticality

Drilled excavations are rarely ideal cylinders and irregularities can affect capacity, durability and performance. SHAPE® Cabled was created for QA of drilled excavations, with a diameter greater than 20 inches (51cm), as a cost-effective testing device to ensure the design intentions are satisfied for the project. The slim design of the SHAPE®- Cabled can be lowered into the excavation via winch system, manual pulley system, or attached to a Kelly bar, providing a quick view of the shaft verticality, radius, shape and drilled hole volume.

SHAPE® Cabled is equipped with a cable connection and eight ultra-sonic sensors that scan the sides of the excavation, the unit allows data to be viewed in real-time.

SHAPE® Cabled offers:

- Lightweight, thin design for small diameter excavations (>20 inches or 51cm)
- Multi-channel ultrasonic device scans the sidewall condition of wet pour excavations
- Data acquired in real-time with views of excavation profile, radius, volume and verticality
- Built in calibration pulse to improve accuracy
- Effective in water, polymer and mineral slurries
- Sitelink® Remote Technology
- Battery powered

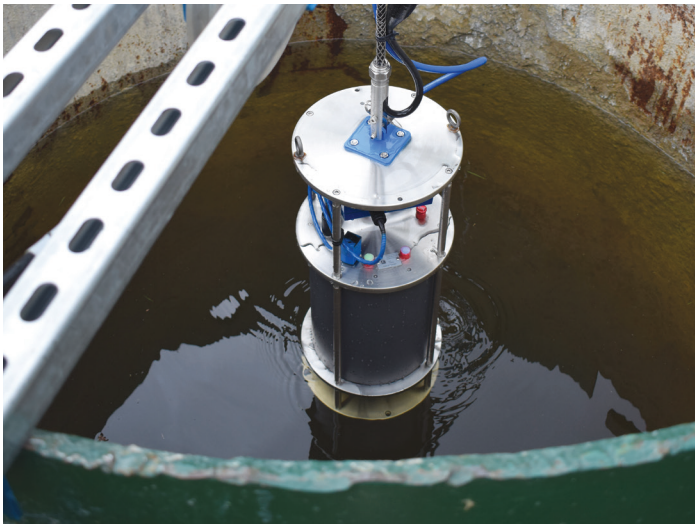
SHAPE® Cabled offers 360, 2d and 3D profile views at an advancement rate of one (1) foot per second (300mm/sec), via a winch system, drilling stem, or cable spool.

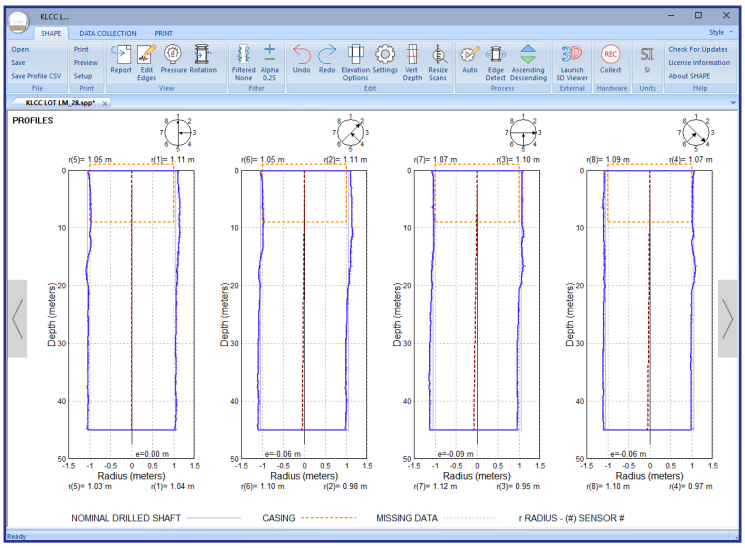
SHAPE® Cabled Data Collection Software

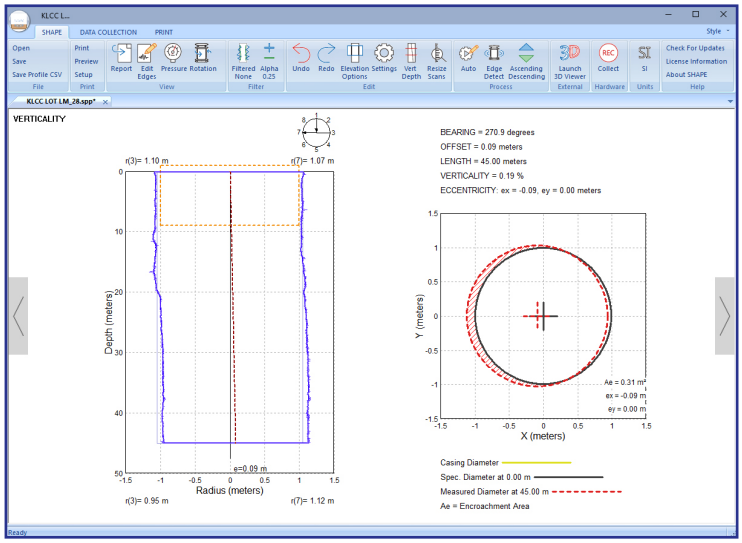
SHAPE® Cabled software generates reports based on data collection during testing. The software allows users to view or edit the collected data with the following features:

- Edit Edges – select edges for the circle fit process
- Pressure – view how the pressure increased during descension and decreased during ascension
- Sensor Data – view measured pulses
- Report – view the sensor profiles containing their verticality and eccentricity information

The program produces a 3-dimensional image of the boring by calculating the distance between each sensor and the excavation wall. The SHAPE calculates the distance by measuring the wave speed in slurry at each measurement depth.







- Quick, cost effective views of the excavation to ensure design intentions
- 8 ultra-sonic channels scanned simultaneously to provide a 360°, 2- & 3-Dimensional profile views
- Real-time data acquisition