Sand site - Øysand

Sandy soils have naturally shifting characteristics in drainage, strength and stiffness which pose a clear challenge for the design of geotechnical structure such as shallow and deep foundations, excavations, slopes, and road embankments. A typical example of such challenge is the well-known Pisa tower of Italy built in 1173 AD.

Over the next 20 years, the NGTS research site at Øysand will provide easy access to a 35,000 m^2 geo-experimentation site on sand. The industry, public authorities, research organizations and universities worldwide will use the site as benchmark to test and adapt soil investigation methods, do long term tests, verify foundation solutions, and perform specialized testing to develop new models of soil behaviour. Today some monitoring instruments (groundwater pressure and temperature) can be observed on the outskirts of the test field.

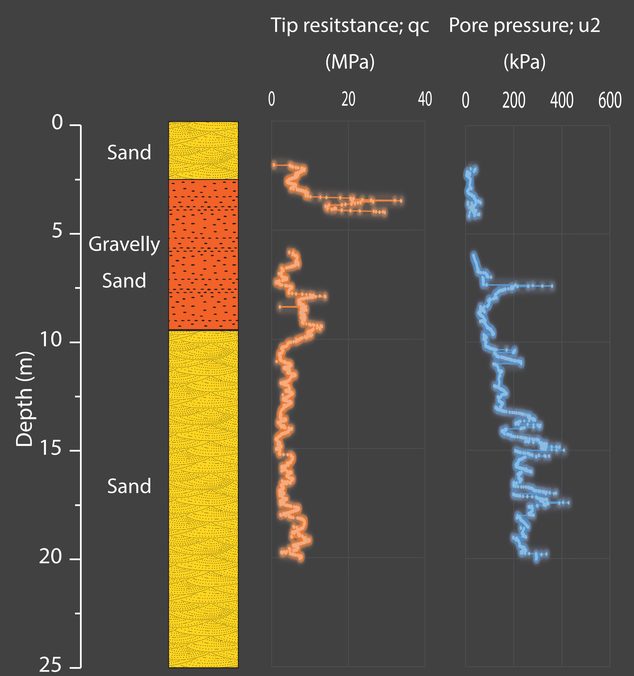
The Øysand research site consists of fluvial and deltaic deposit from the Gaula river. The sand deposit is relatively homogenous and consists coarse to fine sand with predominantly quartz minerals, some plagioclase and micas. Throughout the life of the research project the site will continue to be used as an agricultural area.

For more information about the NGTS infrastructure project and for an update on ongoing research activities here at Øysand please visit our website at **www.geotestsite.no**

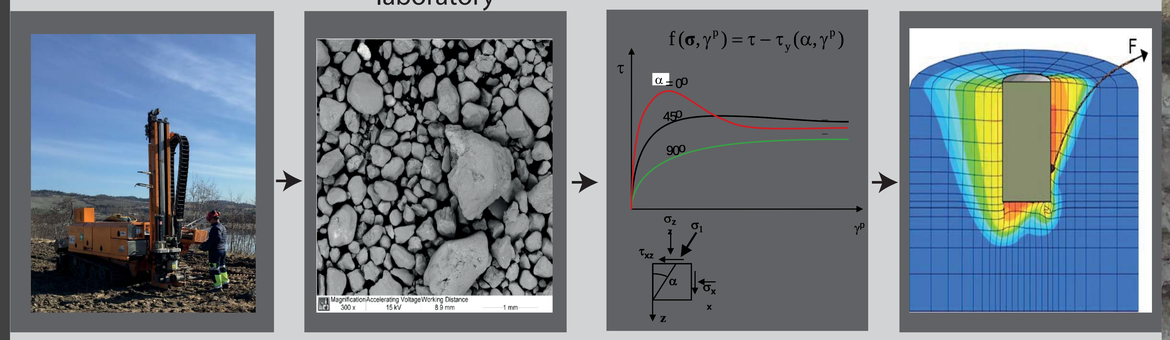
Examples of geotechnical challenges associated with sandy soil: (Left) Differential settlements of the Pisa tower in Italy. (Below) landslide problematic and internal erosion in sands.

Loose sand is a challenging soil type in geotechnical engineering!

General soil profile and stratigraphy at Øysand



Soil testing in situ → Soil testing in the laboratory → Interpretation → Model and analysis



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