

**STATIC LIQUEFACTION –
COMPREHENSIVE OVERVIEW AND UPDATE ON STATE OF PRACTICE**

Static liquefaction and strength loss of tailings dams due to undrained failure has become a topic of interest in tailings management following the Fundão and Mount Polley tailings dam failures. Static liquefaction is the sudden loss of strength when loose soil, typically granular material such as sand or silty sand, is loaded and cannot drain. Strength loss due to undrained failure is also associated with fine grained materials of low hydraulic conductivity, such as clays or plastic silts. The two phenomena are related; loading and deformation produces a tendency for the materials to contract and develop excessive pore pressure faster than drainage systems can relieve the pressure. Static liquefaction is a rare event but happens very quickly and without warning, so it is an extremely dangerous phenomenon.

This short course will present a discussion of the fundamentals of Static Liquefaction, along with an overview of the current state of practice of field and lab testing, and analytical methods. This course should be of use to practicing professionals as well as owners and regulators. Relevant case studies of failures and successes will be presented for context and discussion. An optional laboratory tour and CPT demonstration will follow.

PRESENTERS

- Andy Fourie – University of Western Australia
- Scott Martens – Canadian Natural Resources Limited
- Joe Quinn – Klohn Crippen Berger
- Peter Robertson – Gregg Drilling & Testing
- Ward Wilson – University of Alberta

COURSE FEE

- General: \$475
- Student: \$225