

Geotechnical Investigations



ATC Williams offers a complete range of geotechnical investigation, testing and design services to the civil construction, infrastructure and resource sectors.

We take a practical approach, ensuring that appropriate levels of investigation are undertaken and that experienced senior professionals are involved in the process from concept to completion.

Our field investigations may include:

- geotechnical drilling
- cone penetrometer testing
- seismic cone
- dilatometer testing
- test pitting
- hand auger boring.

We also operate our own portable wireless CPTU equipment for difficult access and soft ground sites.

Typical in situ tests undertaken during the course of our investigations include SPT, CPT, CPTU, SCPT, DMT, constant and variable head permeability, shear vane, piston sampling, dynamic cone (or Perth Sand Penetrometer) testing.

Laboratory testing services are arranged through our own NATA accredited laboratory in Melbourne or other laboratories with whom we have enjoyed long-standing commercial relationships. Our laboratory in Melbourne also specialises in testing for mine tailings characterisation.

We provide a full range of geotechnical investigation services for the efficient design of temporary and permanent excavation/basement retention works, foundations, engineered slopes, buried infrastructure, pavements, water retaining structures, dewatering etc.

Accurate assessment of geotechnical conditions is essential for safe and cost-effective design. This allows for the adoption of an appropriate level of conservatism rather than assuming worst case conditions based on limited investigation, which frequently leads to costly engineering solutions.

Frequently, environmental investigation is undertaken in conjunction with geotechnical investigation. This may comprise continuous soil sample recovery using Geoprobe drill rigs, with subsequent field and detailed laboratory analysis for acidity (acid sulfate soil), or particular species of contaminant (e.g heavy metals, hydrocarbons, pesticides).

Field Investigations and lithological descriptions are undertaken in general accordance with AS 1726 by experienced geotechnical professionals, and laboratory testing in accordance with AS 1289, with assessment specific standards also adopted where required (e.g regulatory environmental sampling and analysis guidelines).

Assessment and interpretation is based on sound soil mechanics and rock mechanics principles as well as local knowledge accumulated over many years by our engineering staff and principals.