



Australian Government

MSL974018 Conduct geotechnical site investigations

Release: 1

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Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL974002 Conduct geotechnical site investigations. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to prepare for and conduct and conclude site activities, such as excavations, sampling and testing as part of a geotechnical investigation team. Personnel are expected to solve common site problems and seek advice to deal with situations beyond their own technical competence.

This competency is typically performed by laboratory technicians working under the guidance of a geotechnical paraprofessional or engineer in the construction, mining and drilling industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|---------------------------------------|-----|---|
| 1 | Prepare for on-site operations | 1.1 | Identify the job, location, work instructions, appropriate sampling and test procedures and safety requirements |
|---|---------------------------------------|-----|---|

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.2 Identify site hazards and identify appropriate personal protective equipment (PPE) and safety procedures that are specified for the job and materials used 1.3 Record description of the job to be undertaken, compare with specification and report any variations 1.4 Arrange for the collection, checking, stowing and transport of all tools, equipment and materials required at the site 1.5 Ensure site access requirements, such as entry permits and safety inductions, have been organised
2 Arrange excavation of boreholes, test pits and/or trenches	2.1 Identify the sampling/testing location 2.2 Excavate or oversee excavation to the sampling and testing depth, minimising disturbance and potential contamination of the site 2.3 Identify materials and record changes of strata, test results and other relevant information 2.4 Ensure materials from different strata are kept separate 2.5 Terminate the excavation at the appropriate depth and record the reason for termination
3 Conduct site sampling	3.1 Prepare and check sampling equipment and materials 3.2 Take disturbed and undisturbed samples in accordance with workplace methods and procedures 3.3 Label and record samples in accordance with workplace methods and procedures 3.4 Recognise and record details of site conditions that may impact on sample integrity or site interpretation
4 Conduct testing	4.1 Prepare and conduct pre-use checks of test equipment

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.2 Perform, or assist with performing, tests in accordance with test methods or workplace procedures 4.3 Record test data in accordance with test methods or workplace procedures 4.4 Recognise obvious errors or atypical data and take appropriate corrective actions
5 Finalise site operations	5.1 Backfill or seal any excavation and ensure that it is left in a safe and uncontaminated condition 5.2 Reinstate surfaces disturbed by sampling or testing 5.3 Clean all equipment (and vehicle, as necessary) avoiding environmental damage, stormwater contamination or spread of pests 5.4 Check all equipment and materials prior to re-stowing them for safe transport 5.5 Handle and transport samples in accordance with established practices 5.6 Notify appropriate site personnel on completion of investigations and prior to leaving site 5.7 Check serviceability of test equipment before storage on return to base
6 Maintain records	6.1 Maintain equipment records in accordance with established practices 6.2 Complete site safety plans, equipment logs and test reports in accordance with workplace procedures 6.3 Maintain confidentiality of workplace information
7 Maintain a safe work	7.1 Use safe work procedures and PPE to ensure personal safety and that of others

Elements describe the essential outcomes.

environment

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|-----|---|
| 7.2 | Minimise environmental impacts of testing/sampling and generation of waste |
| 7.3 | Collect and/or dispose of all waste in accordance with workplace procedures |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to:
 - interpret maps, site plans and drawings accurately
 - perform basic in situ tests and site measurements, including location and depth.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974002 Conduct geotechnical site investigations, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>