



Australian Government

MSL973024 Perform site investigation activities

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 MSL973012 Perform site investigation activities. 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 activities, such as excavations, sampling and testing, as part of a site investigation team. Personnel are expected to identify common site problems and seek advice to deal with situations beyond their own technical competence.

This unit applies to laboratory assistants working under the close supervision of a senior technician 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 | Confirm details of the job, location, work instructions, appropriate sampling/test procedures and safety requirements with supervisor |
|---|---------------------------------------|-----|---|

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.2	Identify likely site hazards, personal protective equipment (PPE) and safety procedures that are specified for the job and materials used
		1.3	Collect, check and stow all tools, equipment and materials required at the site
		1.4	Confirm site access requirements, such as entry permits and participate in safety induction as required
2	Conduct excavation of boreholes, test pits and/or trenches	2.1	Confirm specified sampling/testing locations with supervisor
		2.2	Excavate to the specified sampling/testing depth, minimising disturbance and potential contamination of the site
		2.3	Ensure materials from different strata are kept separate
		2.4	Identify materials and record changes of the strata and the test results
3	Conduct site sampling	3.1	Prepare and check sampling equipment and materials
		3.2	Take disturbed and undisturbed samples as directed and in accordance with workplace methods and procedures
		3.3	Label samples and record samples/site conditions in accordance with workplace methods and procedures
4	Conduct site testing	4.1	Conduct pre-use checks of test equipment
		4.2	Perform basic tests as directed and in accordance with test methods or workplace procedures
		4.3	Record data in accordance with test methods or workplace procedures
		4.4	Recognise obvious errors or atypical data and seek advice

Elements describe the essential outcomes.

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

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|---|---|-----|---|
| 5 | Complete site operations | 5.1 | Reinstate the site in accordance with instructions |
| | | 5.2 | Clean all equipment (and vehicle as necessary) avoiding environmental damage, stormwater contamination or spread of pests |
| | | 5.3 | Check all equipment and materials prior to re-stowing them for safe transport |
| | | 5.4 | Handle and transport samples in accordance with workplace procedures |
| | | 5.5 | Notify appropriate site personnel on completion of tasks and prior to leaving site (if unsupervised) |
| | | 5.6 | Check serviceability of test equipment before storage |
| | | | |
| 6 | Maintain records | 6.1 | Record details of site sampling, testing and material types in accordance with workplace procedures |
| | | 6.2 | Maintain confidentiality of workplace information in accordance with workplace procedures |
| | | | |
| 7 | Maintain a safe work environment | 7.1 | Use safe work procedures and PPE to ensure personal safety and that of others |
| | | 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
- recognise site features and soil, rock and fill materials
- 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 MSL973012 Assist with 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>

Assessment Requirements for MSL973024 Perform site investigation activities

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- prepared for site investigations and safely and effectively performed 3 site sampling, testing and excavation/reinstatement tasks.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the basic concepts, purposes and principles of site investigation activities conducted as part of job role
- site safety and management rules, including safety induction, risk assessments, controlled entry/exit to site and required personal protective equipment (PPE)
- simple methods for identifying and classifying materials
- basic engineering properties of soil and rock materials and their use in engineering and construction
- basic principles of representative sampling and testing
- basic in situ testing methods relevant to job role
- common site problems:
 - caving in of excavation walls
 - drilling difficulties
 - sample loss during retrieval
 - knowing when to stop a hole, or what and when to test and sample
 - misidentification of samples and sampling locations
 - equipment breakdown and breakage

- environmental impacts of construction activities on wildlife, vegetation, waterways and inclement weather
- common site hazards
- minimising environmental impacts
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - access to geotechnical and/or construction sites and relevant site documentation
 - workplace procedures, sampling plans, test methods and equipment manuals
 - consumables; hand tools; field sampling and test equipment, such as dynamic cone penetration (DCP) testing, standard penetration testing (SPT), shear vane, pocket penetrometer and water level indicator
 - excavation equipment, such as hand and power augers, powered excavators, generators and jack hammers
 - safety clothing and equipment, including helmets, boots, gloves, earmuffs and glasses.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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