



Australian Government

MSL975023 Supervise geotechnical site investigations

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL975023A Supervise geotechnical site investigations

Application

This unit of competency covers the ability to supervise and direct geotechnical site investigations based on observation and testing. The unit involves confirming the scope of the investigation, liaising with site personnel and coordinating geotechnical sampling and testing activities, collecting reliable data and reporting results. Personnel are also expected to interpret results in the field, provide reliable advice to clients, recognise and rectify obvious errors or unexpected results and troubleshoot common problems.

This unit of competency is applicable to technical officers working in the construction materials testing sector. This unit of competency is typically performed by experienced technicians or engineering paraprofessionals, who often supervise, or direct less experienced technical personnel.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSL974002 Conduct geotechnical site investigations

Competency Field

Testing

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1	Plan geotechnical investigation	<p>1.1 Identify the job, consult with stakeholders and obtain relevant information, including the purpose and scope of the investigation</p> <p>1.2 Conduct desktop study of existing site information</p> <p>1.3 Inspect the site to determine the characteristics of the project</p> <p>1.4 Design inspection, sampling and testing program in accordance with specifications</p> <p>1.5 Select human and physical resources required for the job</p> <p>1.6 Identify site hazards and conduct risk assessment</p> <p>1.7 Organise site induction for support personnel, as required</p> <p>1.8 Brief support personnel on job-specific requirements</p> <p>1.9 Ensure ongoing liaison with stakeholders during project</p>
2	Establish on-site operations	<p>2.1 Consult with project personnel to determine methods of communication, roles, responsibilities and expectations of each party, including identification of potential problems and conflicts</p> <p>2.2 Arrange deployment of personnel and resources to site</p> <p>2.3 Arrange for the physical location of services, as required, and reconcile test locations</p>
3	Coordinate geotechnical sampling and testing	<p>3.1 Ensure sampling and testing is conducted in accordance with project requirements</p> <p>3.2 Ensure test data and observations are recorded in accordance with workplace practices</p>

- 3.3 Review the progress of sampling and testing against the project schedule and provide any feedback to client as required
 - 3.4 Review samples and field data and schedule testing as required
 - 3.5 Ensure the finalisation of site operations according to project brief or relevant standard

- 4 **Analyse project data and report to client**
 - 4.1 Report test results to site superintendent at specified intervals
 - 4.2 Analyse project data and provide regular reports to the client using the agreed format

- 5 **Maintain workplace records**
 - 5.1 Ensure site results are documented in accordance with workplace practices
 - 5.2 Maintain security and confidentiality of workplace information
 - 5.3 Prepare and issue a final project report in accordance with client requirements

- 6 **Promote a safe work environment**
 - 6.1 Promote the use of safe work procedures and personal protective equipment (PPE)
 - 6.2 Minimise environmental impacts of testing/sampling and generation of waste
 - 6.3 Promote the collection and disposal 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.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements

Standards, codes, procedures and/or workplace requirements include the latest version of one or more of:

- Australian and international standards covering the requirements for the competence of testing and calibration laboratories, laboratory safety, and quality and environmental management
- national work health and safety (WHS) standards and codes of practice, national measurement regulations and guidelines, and environmental legislation and regulations
- standard methods for sampling and testing construction materials, such as soils, aggregates, concrete and asphalt
- specific codes, guidelines, procedures and methods, such as:
 - AustRoads test methods, and State/Territory Road Authority test methods
 - National Association of Testing Authorities (NATA) documents regarding construction materials testing (Field application document)
- workplace documents, such as standard operating procedures (SOPs); quality and equipment manuals; calibration and maintenance schedules; material safety data sheets (MSDS) and safety procedures; material, production and product specifications; production and laboratory schedules; workplace recording and reporting procedures; waste minimisation and safe disposal procedures; maps and site plans
- sampling and testing procedures for specific sites, clients and samples

Common site problems

Common site problems include, but are not limited to, one or more of:

- caving in of excavation walls
- drilling difficulties
- not knowing the requirements of the design engineer
- not understanding the nature of the item being designed (e.g. retaining wall, piled structure and earthworks)
- 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 problems and issues, including site access, inclement weather, traffic, wildlife, vegetation and construction activities

Site hazards

Site hazards include, but are not limited to, one or more of:

- solar radiation, dust and noise
- manual handling of heavy materials and equipment
- working in/on trenches, confined spaces, wet and uneven surfaces, heights and slopes
- vehicular and pedestrian traffic
- underground services, such as gas and electricity
- working close to earth moving equipment, trucks and overhead loads

Safe work procedures Safe work procedures include, but are not limited to, one or more of:

- locating site services before investigations commence
- use of signage, barriers, flashing lights and traffic control
- use of PPE, such as hard hats, hearing protection, gloves, goggles, coveralls and safety boots
- use of material safety data sheets (MSDS)
- use of machinery guards
- recognising and observing hazard warnings and safety signs/barriers
- handling and storing hazardous material and equipment in accordance with labels, MSDS, manufacturer instructions, and workplace procedures and regulations
- labelling of samples, reagents and hazardous materials
- regularly cleaning equipment and vehicles
- following established manual handling procedures

WHS and environmental management requirements

WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially hazardous nature of samples

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>