



Australian Government

MSL973012 Perform site investigation activities

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL973012A Assist with geotechnical site investigations

Application

This unit of competency covers the ability 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 of competency is applicable to laboratory assistants working under the close supervision of a senior technician in the construction, mining and drilling industry sectors.

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

Nil

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.

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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 |
| | | 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
- 5 **Complete site operations**
 - 5.1 Reinststate 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 On return to base, 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
- 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.

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, quality management and environmental management
- national work health and safety (WHS) standards and codes of practice, national measurement regulations and guidelines, and environmental legislation and regulations
- 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; and 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
- 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

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 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

Minimising environmental impacts

Minimising environmental impacts include, but are not limited to, one or more of:

- damage from movement of vehicles
- disposal of surplus or spent or materials
- containing run-off of water
- recycling of wastes
- compliance with quarantine requirements, including cleaning of vehicles to prevent transfer of pests (e.g. fire ants and seeds) and contaminants
- compliance with environmental, cultural and heritage protection requirements

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/>