



Australian Government

MSL974024 Undertake field-based, remote-sensing monitoring

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 MSL974009 Undertake field-based, remote-sensing monitoring. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

Application

This unit of competency describes the skills and knowledge to organise and undertake defined field-based, remote-sensing monitoring activities. These may include assembling, setting up and checking appropriate monitoring equipment on-site, sampling, data collection and storage, equipment and system maintenance, and associated field testing and laboratory analysis. This unit of competency does not cover developing specific monitoring protocols or detailed design and/or construction of instruments, buildings, structures associated with the remote-sensing monitoring activities.

This unit applies to technical, field and environmental officers working in the environmental services, geotechnical, construction materials testing and mining 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.

1 Confirm

1.1 Clarify the purpose, objectives and the preferred site for

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
monitoring requirements with supervising staff			the remote-sensing activities
	1.2		Review all emergency and hazard/risk assessments, site safety and environmental requirements, and data quality procedures for the field activities
	1.3		Clarify details of all field parameters to be monitored and the preferred monitoring and data quality procedures
	1.4		Confirm final data formats will suit stakeholders who receive or use the data
	1.5		Clarify details of any statutory requirements that apply to the site and associated field activities
	1.6		Review existing remote-sensing monitoring protocols, and siting standards or associated in-house requirements which relate to the field activities
2	Assemble remote-sensing field monitoring system	2.1	Identify required instruments, equipment and consumables and associated maintenance and replacement procedures
		2.2	Identify site access, services and security requirements and any site constraints
		2.3	Complete all administrative requirements and obtain appropriate approvals
		2.4	Confirm required instrument calibration and data storage, handling and transfer systems
		2.5	Field-check site suitability for monitoring activities and define alternative sites as necessary
		2.6	Assemble remote-sensing monitoring system and check all components under laboratory conditions
3	Organise and establish the remote-sensing monitoring site	3.1	Identify, and confirm with senior staff, all resources required for operation of monitoring system in the field
		3.2	Confirm that all safety, emergency and risk assessment requirements and data quality procedures have been

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	correctly applied to the field activities
	3.3 Ensure correct packaging and transportation of equipment and instruments to defined field site
	3.4 Establish remote monitoring station
	3.5 Test operation of total system under field conditions
4 Operate and maintain monitoring site	4.1 Undertake regular or emergency inspections of the site according to set procedures
	4.2 Undertake calibration checks according to written instructions
	4.3 Inspect and maintain all instruments, equipment and data systems and organise replacement of defective items
	4.4 Perform all field and laboratory activities safely and with minimal impact on the environment
	4.5 Document all site visits and associated actions
	4.6 Review the total monitoring activity on a regular basis and implement any required modifications or improvements
5 Close down field monitoring activities	5.1 Confirm decision to close down site and finalise all data requirements with supervising staff
	5.2 Dismantle monitoring system and arrange checking, packaging and transportation of all equipment and instruments back to base
	5.3 Close down site in accordance with workplace and environmental requirements
	5.4 Hand back site and inform all relevant authorities
	5.5 Test, decontaminate, if required, and store all equipment appropriately
	5.6 Document all close-down actions

Foundation Skills

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

- Problem solving skills to respond effectively to changed or unforeseen circumstances
- Oral communication skills to effectively consult with clients face-to-face and by telephone and to effectively participate in meetings.

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

Unit Mapping Information

Equivalent to MSL974009 Undertake field-based, remote-sensing monitoring, 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 MSL974024 Undertake field-based, remote-sensing monitoring

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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:

- organised and safely and effectively undertaken at least 2 defined field-based, remote-sensing monitoring activities to collect and store reliable data.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- terminology, protocols and statutory requirements relevant to field-based environmental monitoring activities conducted as part of job role
- purpose and objectives of the monitoring activities conducted as part of job role, including:
 - information and analysis required
 - end users of information
 - significance of outcomes for broader programs
- operating principles, technical capabilities and limitations of remote-sensing equipment and instruments used
- typical instruments and equipment
- typical purpose of field monitoring activities:
 - single or multiple site monitoring
 - component of workplace environmental management plan
 - remote-sensing monitoring of physical/chemical and mechanical/geotechnical parameters
 - monitoring of consolidation of soils and foundations

- monitoring the durability of structures (e.g. roads)
- requirement to comply with statutory requirements
- requirement to comply with industry sampling/monitoring protocols/codes of practice
- standard methods for sampling, remote-sensing/monitoring protocols, data quality procedures and site-specific requirements
- data quality, data storage, analysis and presentation procedures
- workplace and/or legal traceability requirements
- hazards and risks associated with field-based, remote-sensing monitoring
- field-based work health and safety (WHS) requirements, emergency plans and environmental requirements
- workplace and/or legal traceability requirements
- 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:
 - work program, workplace procedures covering safety and risk assessment, first aid, survival and emergency procedures, environmental requirements, codes of practice and field protocols
 - vehicles, monitoring and communication equipment, consumables and manuals.

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

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