



Australian Government

MSL974022 Undertake environmental field-based 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 MSL974007 Undertake environmental field-based 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 field monitoring programs that are primarily focused on the determination of physical and chemical parameters and/or observation and documentation of biological/ecological systems. It covers confirming the requirements of the monitoring activities, sampling, sample handling, physical and chemical monitoring, and simple field-based analysis, data collection and recording. It also covers field camp maintenance and field safety. All work would be performed under the guidance and supervision of a scientific officer.

This unit of competency applies to technical, field and environmental officers working in the construction materials, mining and environmental services 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 defined site for

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
requirements for field monitoring activities		the field monitoring activities with supervising staff
	1.2	Review all emergency plans, risk assessments, and safety and environmental requirements associated with the field activities
	1.3	Review and discuss the detailed work program with supervising staff
	1.4	Clarify the need for permits and any access restrictions or local concerns at field site
	1.5	Clarify details of all samples to be collected and field parameters to be measured
	1.6	Confirm final data formats will suit stakeholders who receive or use the data
	1.7	Review existing in-house protocols and/or associated in-house requirements that relate to field sampling, monitoring and data quality procedures
2 Prepare for field monitoring activities	2.1	Develop checklists, based on work program, to facilitate correct preparation of field activities
	2.2	Identify and implement all actions required under workplace emergency plan, risk assessment, and environment, safety and data quality procedures
	2.3	Complete all administrative requirements and obtain appropriate approvals/permits
	2.4	Prepare and check all instruments, equipment, materials and supplies required to implement field program
	2.5	Confirm correct and safe use of equipment and details of field activities with supervisor
	2.6	Arrange and check correct operation, packaging and transportation of all supplies and equipment
3 Perform field activities	3.1	Establish and maintain field camp in accordance with workplace procedures

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	3.2 Perform field sampling, monitoring, data collection and recording in accordance with the agreed work program 3.3 Label all samples and complete data sheets and field log book in accordance with workplace procedures 3.4 Store samples/specimens in accordance with any special requirements for continued wellbeing, viability or integrity 3.5 Perform all tests and operate all equipment according to workplace instructions 3.6 Store and maintain equipment and, where appropriate, calibrate instruments during field activities 3.7 Perform all activities safely with minimal impact on the environment
4 Close down field monitoring activities	4.1 Arrange and check final packaging and transportation of all samples, equipment and supplies back to home base 4.2 Ensure that monitoring/camp site is left in accordance with workplace and environmental requirements 4.3 Ensure all samples and data are stored safely 4.4 Ensure dispatch of collected samples for subsequent analysis 4.5 Test and, if required, decontaminate equipment before storage 4.6 Report results, noting any anomalies with users, data analysers and/or supervisor

Foundation Skills

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

- Communication skills to effectively engage in face-to-face conversations and telephone interactions, complete written documents and participate in meetings

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

Unit Mapping Information

Equivalent to MSL974007 Undertake environmental field-based 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 MSL974022 Undertake environmental field-based 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 undertaken at least 1 field monitoring program to accurately determine physical and chemical parameters, or
- observed and accurately documented at least 1 biological and ecological system.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- understanding of the purpose and objectives of field activities, such as information and analysis required, end users of information, and significance of outcomes for broader programs
- application of risk assessment to work programs and field activities
- technical capabilities and limitations of equipment and instruments used in field activities
- purpose of field monitoring activities:
 - single or multiple site sampling and monitoring, routine monitoring of physical/chemical parameters
 - biological/ecological surveys
 - requirement to comply with legislation, regulations or standards, industry sampling or monitoring protocols or codes of practice
- common issues and problems that may occur when organising and conducting field activities:
 - loss or failure of equipment
 - failure to bring critical equipment
 - communication failure/difficulties

- unexpected restriction access to site
- unforeseen environmental impacts
- contact with hazardous wastes.
- 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:
 - equipment required for field activities: vehicles, navigation and communication equipment; survey and/or testing equipment, sampling equipment, containers, safety equipment and consumables
 - work program, workplace procedures, codes of practice and field protocols and manuals.

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

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