



Australian Government

MSL974007 Undertake environmental field-based monitoring

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL974007A Undertake environmental field-based monitoring

Application

This unit of competency covers the ability 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. This unit of competency covers gaining clearance for animal trapping, tagging, keeping or experimentation. This unit does not cover animal handling techniques for specific species of animals. All work would be performed under the guidance and supervision of a scientific officer.

This unit of competency is applicable to technical, field and environmental officers working in the construction materials, mining and environmental services 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 | Confirm requirements for field monitoring activities | 1.1 | Clarify the purpose, objectives and the defined site for 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
 - 2.7 Arrange all additional pre- and post-monitoring activities
- 3 Perform field activities
 - 3.1 Establish and maintain field camp in accordance with workplace procedures, as necessary
 - 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.

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, national and international standards, guidelines and codes covering work health and safety (WHS); occupational protective equipment; labelling of workplace substances; storage, handling and transport of dangerous goods; and environmental management
- national WHS standards and codes of practice, and national environmental protection measures
- Government policy and regulations covering environmental management, sustainable development and impact assessment
- standard methods for sampling and conducting field monitoring and surveys, specific environmental standards and site-specific requirements
- industry specific codes, regulations and guidelines, such as animal welfare legislation and codes of practice, Australian Quarantine and Inspection Service (AQIS) Export Control (Orders) Regulations and Import Guidelines
- workplace documents, such as standard operating procedures (SOPs), data quality procedures, equipment manuals and warranties, supplier catalogue and handbooks, calibration and maintenance schedules, material safety data sheets (MSDS) and safety procedures, survey/laboratory schedules, workplace recording and reporting procedures, and waste minimisation and safe disposal procedures

Communication

Communication includes:

- face-to-face and telephone interactions, written documents and meetings

Purpose of field monitoring activities

Purpose of field monitoring activities include one or more of:

- 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

Workplace procedures for field activities

Workplace procedures for field activities include, but are not limited to:

- SOPs covering fieldwork, sampling and testing, and recording of data

- equipment operating manuals, calibration procedures, instrument fault-finding procedures, and general maintenance and repair procedures
- field camp procedures for cleaning, cooking, safety, security, hygiene, work management and set-up/take down
- requirements related to protection of the environment
- emergency, first aid and survival procedures, and incident/accident/injury report forms

Administrative requirements and appropriate approvals

Administrative requirements and appropriate approvals include one or more of:

- travel requisitions
- authority for use of vehicles and equipment
- insurance
- permits
- permits and clearances

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
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health, where relevant

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

