Australian Government

Department of Education, Employment and Workplace Relations

MSL973005A Assist with fieldwork

Revision Number: 1

MSL973005A Assist with fieldwork

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency describes the ability to perform tasks associated with the organisation of fieldwork and field surveys. It also covers basic field survival skills and collection of samples in the field.

Application of the Unit

Application of the unit	This unit of competency is applicable to laboratory and field assistants working in the environmental, mining, construction materials testing and rural industry sectors. All aspects of field and laboratory work covered by this unit of competency would be supervised by a scientific officer or technical officer. Though a supervisor may not always actually be present, the worker will follow standard operating procedures that clearly describe the permitted scope of practice. This unit of competency does not include gaining clearance for animal trapping, tagging, keeping or experimentation. It does not cover animal handling techniques. Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assist with organisation of fieldwork	1.1. Purchase supplies and equipment as specified by senior staff 1.2. Assemble supplies and equipment and check against inventory 1.3. Pack supplies and equipment appropriately for safe transport
2. Support field operations	2.1. Check unpacked items against inventory 2.2. Store supplies and equipment as specified 2.3. Restock supplies as necessary 2.4. Collect and/or dispose of waste in accordance with enterprise and environmental requirements
3. Assist with field activities	3.1. Assemble equipment and materials for fieldwork as directed 3.2. Collect samples, if required, in accordance with enterprise procedures, animal care and ethics and other legislative requirements 3.3. Store samples in accordance with special requirements for continued wellbeing, viability or integrity of sample 3.4. Perform simple field measurements as directed 3.5. Collect and maintain records of site data as directed
4. Demonstrate basic field survival skills	4.1. Follow specified safety procedures 4.2. Follow specified survival procedures in the event of emergencies and accidents 4.3. Wear suitable clothing as protection against solar radiation, extreme temperatures and impact injury
5. Assist with the completion of fieldwork	5.1. Pack supplies, equipment and samples appropriately for safe return transport 5.2. Check and clean used equipment to prevent deterioration and contamination 5.3. Check that the condition of vehicles, equipment and materials comply with environmental/quarantine requirements for preventing transfer of pests 5.4. Return supplies and equipment to storage at enterprise location 5.5. Conduct a stocktake of equipment and supplies for replenishment where required 5.6. Assist with the dispatch of collected samples for laboratory analysis, as necessary

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using two-way radio and satellite phone in accordance with enterprise procedures
- using basic field survival strategies, such as map reading, use of compass and global positioning system (GPS) and 'stay with vehicle' in the event of accident or emergency
- organising, packing/unpacking and stowing materials and equipment with close attention to detail
- collecting samples in accordance with enterprise procedures and legislative requirements
- storing andmaintaining samples in accordance with special requirements for continued wellbeing, viability and integrity of sample
- maintaining accurate and complete data records and checklists
- working safely and in accordance with environmental requirements
- cleaning equipment and collecting and disposing of wastes in accordance with safety and environmental requirements

Required knowledge

Required knowledge includes:

- terms used to describe the relevant industry sector's field equipment, materials, samples and specimens
- enterprise procedures relating to sample collection, maintenance and storage
- enterprise procedures relating to field testing
- specific legislation and codes of practice related to sample and animal collection (if relevant in the industry sector)
- principles of safety relating to fieldwork, such as use of LPG, operation of generators and use of protective clothing
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors should ensure that candidates can: • perform all field activities according to enterprise procedures, legislative and environmental requirements, industry guidelines and codes of practice • complete all tasks efficiently and safely.
Context of and specific resources for assessment	This unit of competency is to be assessed in the workplace or simulated workplace environment. This unit of competency may be assessed with: • *MSL913001A Communicate with other people* • *MSL913002A Plan and conduct laboratory/field work.* Resources may include: • enterprise procedures, regulations and codes of practice • relevant field equipment, samples, test kits and reagents.
Method of assessment	The following assessment methods are suggested: • review of performance with a focus on completing field activitiessafely and efficiently, collection of field samples and data, basic field survival skills, teamwork and accurate record keeping • paper exercises associated with organisation of fieldwork, fieldwork operations and basic field survival strategies • role plays based on possible accident and emergency situations requiring use of communication procedures and basic field survival strategies • oral or written questions. In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.

EVIDENCE GUIDE	
	Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. Access must be provided to appropriate learning and/or assessment support when required. The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.
This competency in practice	Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting. **Environmental (1)** On a field trip to determine the biodiversity of an island fringing reef, a technical assistant assists with constructing a grid map of the study area. The assistant counts the number of six different species of plant in part of the grid, taking care to minimise the impact on the environment. He/she also accurately records the data on a map to show the location of each plant using a predetermined key. **Environmental (2)** A technical assistant is asked to pack and safely transport water sampling and monitoring equipment to a distant field site. Firstly, the assistant checks that all the equipment is in working order and that he/she is able to use and maintain it. Given that the technical assistant is licenced to operate a small boat and is a competent underwater diver, he/she also performs a simple underwater survey of macrophytes in a lake in the study area. The assistant follows standard safety and operating procedures and records the results on a grid map and in the daily log book. **Construction materials testing** A contract laboratory has assigned a team of three to conduct pavement investigations in a rural/remote region. The field assistant uses a checklist to assemble all the required equipment and supplies for a three day trip. The assistant checks the vehicle, toolkit and spares, communication equipment, GPS, water, first aid kit and

EVIDENCE GUIDE	
	personal protective equipment. He/she also checks that the generator, fuel, jackhammer,dynamic cone penetrometer (DCP), sample bags, measuring devices and camera are all present and in good working order. Because the team will be working away from base for three days, the assistant knows that it is vital that all items are present and stowed safely before he/she tells the team leader that the vehicle is ready for departure.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Codes of practice	Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, **codes**, **procedures and/or enterprise requirements**	Standards, codes, procedures and/or enterprise requirements may include:
	• Australian and international standards such as:
	  • AS 1678 Emergency procedure guide -Transport
	  • AS 1940-2004 Storage and handling of flammable and combustible liquids
	  • AS 4332-2004 The storage and handling of gases in cylinders
	  • AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
	  • AS/NZS 2243 Set:2006 Safety in laboratories set
	  • AS/NZS 4452:1997 The storage and handling of toxic substances
	  • AS/NZS ISO 14000 Set:2005 Environmental management standards set
	• animal welfare legislation and codes of practice
	• Australian Dangerous Goods Code
	• Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice
	• basic sampling procedures (labelling, preparation, storage, transport and disposal)
	• basic test procedures (validated and authorised)
	• cleaning, hygiene and personal hygiene requirements
	• environmental requirements related to disposal

RANGE STATEMENT	
	of waste • first aid kit and survival manual • incident and accident/injury reports • instructions to comply with new legislation, standards, guidelines and codes • material safety data sheets (MSDS) • occupational health and safety (OHS) national standards and codes of practice • safety requirements for equipment, materials or products • written fieldwork procedures, standard operating procedures (SOPs) and operating manuals
Items of equipment	Items of equipment may include: • pH meters, dissolved oxygen probes, portable colourimeters, field microscopes, hand centrifuges, sieves and filters • chemical field test kits • environmental monitoring systems • equipment required for the collection of samples and animals • equipment required for ensuring the wellbeing of animals • equipment suitable for the safe collection and disposal of biological and non-biological wastes • basic first aid equipment • data loggers • communication systems, such as two-way radio and conventional codes and symbols for signalling • tools, vehicle recovery equipment and spare parts • navigation and communication equipment, including GPS
Hazards	Hazards may include: • solar radiation, dust and noise • personnel getting lost • incidents or emergencies, such as snake or animal bites • severe weather conditions

RANGE STATEMENT	
	• manual handling of heavy objects • vehicle and boat handling in rough/remote conditions • moving machinery and hand tools • driving vehicles in rough terrain and over long distances during day or night
Safety procedures	Safety procedures may include: • use of personal protective equipment, such as sunscreen, hats, safety glasses, gloves and safety boots • 'stay with vehicle' and other basic survival techniques • use of a regular communication schedule • handling, storage and disposal of all hazardous materials/waste in accordance with MSDS, labels, and enterprise procedures and regulations
Occupational health and safety (OHS) and environmental management requirements	OHS and environmental management requirements: • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing

Competency field

Competency field	

Co-requisite units

Co-requisite units		