



Australian Government

Department of Education, Employment and Workplace Relations

AHCSOL402A Develop a soil use map for a property

Release: 1

AHCSOL402A Develop a soil use map for a property

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers developing a soil use map for a property and defines the standard required to: perform a soil survey; analyse survey results; determine soil characteristics; plot topography and soil survey data on a property map.
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Application of the Unit

Application of the unit	This unit applies to farmers and advisors who determine soil characteristics and develop soil maps to illustrate the characteristics of a property to making decisions about plants/crops, irrigation and drainage. The outcomes of this process will inform decisions relating to whole farm planning.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Collect information for soil mapping	1.1. Confirm soil samples were collected for off-site assessment by soil testing agencies using recommended procedures. 1.2. The information on the physical characteristics of the soil is collected. 1.3. The information on the chemical characteristics of the soil is collected. 1.4. The information about biological characteristics of the soil is collected. 1.5. The acceptable soil parameters for specified plants are determined from published data and historical records. 1.6. Information about areas of cultural significance and habitats of biodiversity on the property is collected. 1.7. Research outcomes are collated in accordance with enterprise record keeping procedures.
2. Analyse soil information	2.1. The soil types of the sample area are classified according to standards for soil classification. 2.2. Collected results are compared with established parameters for actual or proposed land use and production. 2.3. Soil characteristics are evaluated to determine whether they can be altered to meet land use needs. 2.4. The Readily Available Water (RAW) values for irrigation sites are determined in line with industry standards.
3. Plot topography and soil survey data on property map	3.1. Interpreted results are mapped in an established format according to enterprise guidelines. 3.2. Potential uses of the soil for purposes of land classing, land capability, areas of cultural significance and habitats of biodiversity are identified. 3.3. Property boundaries and property features are defined. 3.4. Paddocks or irrigation areas are identified. 3.5. Contour or spot level information is plotted. 3.6. Soil sampling sites are plotted on map. 3.7. Soil profile and irrigation characteristics for each sampling site and/or irrigation area are described and indexed to the map. 3.8. The RAW values for irrigation sites are indexed to

ELEMENT	PERFORMANCE CRITERIA
	<p>the map.</p> <p>3.9. Areas of specific concern are plotted on the map and descriptions are indexed to the map.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- interpret soil analyses results
- identify adverse environmental impacts of irrigation activities and appropriate remedial action
- interpret published data and historical records to identify acceptable soil parameters
- plot information on a map
- use soil and water testing techniques
- follow relevant enterprise Occupational Health and Safety (OHS) and environmental procedures
- use literacy skills to read, interpret and follow organisational policies and procedures, develop sequenced written instructions, record accurately and legibly information collected and select and apply procedures to a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification, negotiating solutions and responding to a range of views
- use numeracy skills to estimate, calculate and record routine and more complex workplace measures and data
- use interpersonal skills to work with others and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- methods and techniques of soil sampling
- OHS and environmental legislative requirements and enterprise procedures
- environmental impacts of irrigation, using water from any ground or underground source
- soil types and profiles
- physical and chemical properties of soils
- nutrient availability in soils
- soil analyses results

REQUIRED SKILLS AND KNOWLEDGE

- biodiversity habitats
- cultural sites
- soil quality factors
- soil water retention testing techniques
- water table and salinity
- RAW.

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	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • perform a soil survey • analyse survey results • determine soil characteristics • plot topography and soil survey data on a property map.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Types of soils may include:	<ul style="list-style-type: none"> • soils in the natural or agricultural landscape but does not include growing media.

Unit Sector(s)

Unit sector	Soils and media
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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