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**SOUTH AFRICAN QUALIFICATIONS AUTHORITY
REGISTERED UNIT STANDARD:**

Collect data for environmental management purposes

SAQA US ID	UNIT STANDARD TITLE			
119822	Collect data for environmental management purposes			
ORIGINATOR		ORIGINATING PROVIDER		
SGB Environmental Sc/Mgt & Waste Mgt				
QUALITY ASSURING BODY				
-				
FIELD			SUBFIELD	
Field 10 - Physical, Mathematical, Computer and Life Sciences			Environmental Sciences	
ABET BAND	UNIT STANDARD TYPE	OLD NQF LEVEL	NEW NQF LEVEL	CREDITS
Undefined	Regular	Level 3	NQF Level 03	8
REGISTRATION STATUS		REGISTRATION START DATE	REGISTRATION END DATE	SAQA DECISION NUMBER
Reregistered		2009-07-01	2012-06-30	SAQA 0480/09
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT		
2013-06-30		2016-06-30		

In all of the tables in this document, both the old and the new NQF Levels are shown. In the text (purpose statements, qualification rules, etc), any reference to NQF Levels are to the old levels unless specifically stated otherwise.

This unit standard does not replace any other unit standard and is not replaced by any other unit standard.

PURPOSE OF THE UNIT STANDARD

In order for me to perform effectively in the field of environmental science, environmental management and waste management, I will be able to:

- Take samples and measurements and record results accurately
- Collect and maintain data for input into environmental management processes

I will also know and understand:

- The purpose of collecting data
- The value of accurate measurements
- The broader environmental processes for which the data is required (a basic level of understanding is required)

I will be able to apply my knowledge and skills in the context of any activity which is related to managing environmental issues, such as:

- Waste management related activities, eg
 - > Materials recovery and buy back centres
 - > Waste reception
 - > Landfill operations
- Water course cleaning, care and maintenance
- Care of public places, open areas, cultural and natural heritage sites
- Maintenance of parks and sports fields
- Involvement in community projects and job creation schemes relating to environmental practice
- General industrial or extraction, ie activities with an environmental care or improvement focus

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

It is assumed that the learner is competent in Communication and Mathematical Literacy at NQF Level 2.

UNIT STANDARD RANGE

This unit standard deals with activities related to obtaining, recording and passing on information required for environmental management purposes:

Data collection includes sample taking, sample collection, sample preparation; measuring; testing; reading measurements and recording, storing and maintaining the data.

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1

Demonstrate understanding of the data collection requirements and plan the sequence of actions required to collect the data.

OUTCOME RANGE

- Data collection requirements would be determined by the context.
- The sequence of actions would be determined by the context.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The requirements for collecting the data are explained clearly.

ASSESSMENT CRITERION RANGE

Requirements include data collection methods, sampling techniques and any other relevant criteria such as meeting legal requirements and/or standards (eg organisational, professional or international standards, best practice).

ASSESSMENT CRITERION 2

The sequence of actions planned is logical, practical and achievable.

ASSESSMENT CRITERION 3

The sequence of actions planned is adhered to in the data collection process.

SPECIFIC OUTCOME 2

Obtain and prepare equipment and documentation required for data collection.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Data collection equipment is checked, set up and calibrated appropriately.

ASSESSMENT CRITERION 2

Correct documentation is made ready for use.

ASSESSMENT CRITERION 3

Work area is prepared according to set standards.

ASSESSMENT CRITERION RANGE

Standards include legal requirements, standard operating procedures and work instructions.

SPECIFIC OUTCOME 3

Collect and record data.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Measurements are read accurately or samples are collected correctly.

ASSESSMENT CRITERION RANGE

Samples are prepared, where applicable, and handled according to procedures.

ASSESSMENT CRITERION 2

Frequency and method of data collection is appropriate.

ASSESSMENT CRITERION RANGE

Data is collected, where applicable, according to procedures.

ASSESSMENT CRITERION 3

Data collected is sufficient and valid for the purpose.

ASSESSMENT CRITERION 4

Records are accurate and clear, and are completed and processed according to procedures.

ASSESSMENT CRITERION 5

Work is performed safely with due care for self, fellow workers, equipment, materials and the environment.

SPECIFIC OUTCOME 4

Care for and store tools and equipment used.

ASSESSMENT CRITERIA**ASSESSMENT CRITERION 1**

A clean and tidy workplace is maintained according to organisational requirements.

ASSESSMENT CRITERION 2

Data collection equipment is cared for and stored according to procedures.

ASSESSMENT CRITERION 3

Worn or damaged equipment is identified correctly and action is taken appropriately.

ASSESSMENT CRITERION RANGE

Appropriate action includes reporting, or replacing or discarding components.

SPECIFIC OUTCOME 5

Complete and process all applicable documentation.

ASSESSMENT CRITERIA**ASSESSMENT CRITERION 1**

Documentation is completed accurately and in the correct format.

ASSESSMENT CRITERION 2

Variations in the collected data are Identified and explained correctly.

ASSESSMENT CRITERION 3

Documentation is processed correctly.

ASSESSMENT CRITERION RANGE

Processed includes storage, filing, handing over, etc.

SPECIFIC OUTCOME 6

Explain why the data is required.

OUTCOME RANGE

Reasons for collecting the data would relate to the learners context and would cover for eg audit purposes, reporting in terms of regulatory requirements, planning, trend analysis, environmental monitoring, statutory compliance, etc. The degree of understanding required would be appropriate for NQF Level 3.

Audit purposes refers to a systematic and documented verification process of objectively obtaining and evaluating

evidence to determine whether an organisation's environmental management system conforms to defined audit criteria.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The role and significance of the data in environmental management processes is described and explained correctly.

ASSESSMENT CRITERION RANGE

- Explanations would be appropriate for NQF Level 3.
- Role and significance includes a basic explanation of the legal requirements for data.

ASSESSMENT CRITERION 2

Understanding of key concepts and principles related to data collection is demonstrated.

ASSESSMENT CRITERION RANGE

Key concepts and principles include:

- Sample collection and preparation.
- Implications of contaminated samples or incorrect measurements.
- Tools and equipment used for data collection, and their correct use.
- Methods of data collection.
- Accuracy and safety in collecting the data.
- The purposes for which data is collected.
- Recording data and processing documentation.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

- The relevant Education and Training Quality Authority (ETQA) must accredit providers before they can offer programmes of education and training assessed against unit standards.
- Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

1. Names and functions of:

- Processes for which data is collected (basic understanding is required)
- Data collection equipment and documentation
- Related terminology

2. Purpose of:

- Processes for which data is collected (basic understanding is required)
- Data collection equipment and documentation
- Collecting, recording and processing data
- Samples and measurements
- Taking and preparing samples
- Accuracy in collecting and recording data

3. Attributes, descriptions, characteristics & properties:

- Components of the environment and their inter-relationships
- Methods of data collection, measuring, sampling
- Data collection equipment
- Typical reasons for collecting data, eg audit purposes, reporting in terms of regulatory requirements, planning, trend analysis, environmental monitoring, statutory compliance, etc (basic understanding is required)

4. Processes and events:

- Reading measurements
- Equipment breakdown
- Data collection processes
- Recording and processing data
- Caring for data collection equipment
- Environmental management processes requiring data

5. Causes and effects, implications of:

- Reasons for variations in data
- Critical points in the data collection process where mistakes could be made or results could become inaccurate
- Implications of contaminated samples or inaccurate measurements
- Possible problem areas
- Inaccurate, insufficient or invalid data
- Effects of data collection equipment on health, safety and the environment
- Impact of national and international standards on workplace practices and the requirement for data collection

6. Procedures and techniques:

- Collecting data
- Recording data
- Identifying possible problem areas related to data collection
- Ensuring human health and safety and limiting damage to equipment and the environment

7. Sensory cues:

- Sensory cues related to data collecting and recording

8. Regulations, legislation, agreements, policies, standards:

- Applicable safety, health and environmental protection legislation
- Applicable quality and environmental standards
- Applicable company policies and standards

9. Theory: rules, principles, laws:

- Applicable mathematical and scientific rules, principles and laws
- Applicable data collection principles
- Units of measure

10. Categories:

- Of tests, of measurements, of samples

11. Relationships, systems:

- The relationship between accurate data collection and the value of the data
- The role of the data in the environmental management process overall

UNIT STANDARD DEVELOPMENTAL OUTCOME

N/A

UNIT STANDARD LINKAGES

N/A

Critical Cross-field Outcomes (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identify and solve problems

- Related to data collection.

UNIT STANDARD CCFO WORKING

Work effectively with others

- Interact with appropriate personnel when performing data collection procedures and processing documentation.

UNIT STANDARD CCFO ORGANISING

Organise and manage myself and my activities

- Perform systematic and consistent data collection procedures.

UNIT STANDARD CCFO COLLECTING

Collect, analyse, organise and critically evaluate information

- Collect and record data accurately.

UNIT STANDARD CCFO COMMUNICATING

Communicate effectively

- Report and discuss problems associated with data collection.

UNIT STANDARD CCFO SCIENCE

Use science and technology effectively and critically

- Use appropriate equipment to collect data.

UNIT STANDARD CCFO DEMONSTRATING

Demonstrate an understanding of the world as a set of related systems

- Describe the role of the data in environmental management processes.

QUALIFICATIONS UTILISING THIS UNIT STANDARD:

	ID	QUALIFICATION TITLE	OLD LEVEL	NEW LEVEL	STATUS	END DATE	QUALITY ASSURING BODY
Core	49752	National Certificate: Environmental Practice	Level 3	NQF Level 03	Reregistered	2012-06-30	LG SETA
Elective	74269	National Certificate: Occupational Health, Safety and Environment	Level 2	NQF Level 02	Reregistered	2012-06-30	As per Learning Programmes recorded against this Qual
Elective	64589	National Certificate: Community Water, Health and Sanitation Monitoring	Level 3	NQF Level 03	Reregistered	2012-06-30	

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS UNIT STANDARD:

This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Quality Assuring Bodies have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Quality Assuring Body should be notified if a record appears to be missing from here.

1. African Divas
2. ICANDO
3. Integrated Waste and Recycling Services

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