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

Operate specialised vehicles and/or complex static or moving machinery and equipment

| SAQA US ID | UNIT STANDARD TITLE | | | |
|---|--|---------------------------|------------------------|----------------------|
| 119830 | Operate specialised vehicles and/or complex static or moving machinery and equipment | | | |
| ORIGINATOR | | | | |
| SGB Environmental Sc/Mgt & Waste Mgt | | | | |
| PRIMARY OR DELEGATED QUALITY ASSURANCE FUNCTIONARY | | | | |
| - | | | | |
| FIELD | | | SUBFIELD | |
| Field 10 - Physical, Mathematical, Computer and Life Sciences | | | Environmental Sciences | |
| ABET BAND | UNIT STANDARD TYPE | PRE-2009 NQF LEVEL | NQF LEVEL | CREDITS |
| Undefined | Regular | Level 3 | NQF Level 03 | 12 |
| REGISTRATION STATUS | | REGISTRATION START DATE | REGISTRATION END DATE | SAQA DECISION NUMBER |
| Reregistered | | 2018-07-01 | 2023-06-30 | SAQA 06120/18 |
| LAST DATE FOR ENROLMENT | | LAST DATE FOR ACHIEVEMENT | | |
| 2024-06-30 | | 2027-06-30 | | |

In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 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:

- Operate specialised vehicles and/or complex static or moving machinery and equipment correctly to achieve the purpose
- Care for and maintain specialised vehicles and/or machinery and equipment safely and responsibly
- Carry out all activities related to specialised vehicles and/or machinery and equipment in accordance with good environmental practice
- Perform team leader duties related to the operation and maintenance of specialised vehicles and/or machinery and equipment

I will also know and understand:

- Concepts and principles which underpin my activities and the operation of specialised vehicles and/or machinery and equipment
- Principles and practice of effective communication

This Unit Standard is particularly applicable 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

Operating specialised vehicles and/or complex static or moving machinery and equipment refers to movable and static equipment for material treatment and processing functions which include consolidating, packaging (collection and handling) transferring and transporting materials, waste treatment and recycling, waste disposal, etc.

All references to the impact of human activities on the environment implicitly include the subsequent impact of the degraded environment on human health and well-being in accordance with accepted definitions of the environment (Section 1 of the National Environmental Management Act 107 of 1998).

Additional information on the scope and level of this unit standard is indicated by range statements related to the specific outcomes.

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1

Monitor condition and operation of vehicles, machinery or equipment and resolve problems.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Quality checks on vehicles, machinery or equipment are conducted using appropriate procedures and tools.

ASSESSMENT CRITERION 2

Applicable quality standards are identified and described.

ASSESSMENT CRITERION RANGE

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

ASSESSMENT CRITERION 3

The purpose of the quality checks is explained.

ASSESSMENT CRITERION 4

Problems related to the condition and operation of vehicles, machinery or equipment are identified and reported or resolved effectively.

ASSESSMENT CRITERION RANGE

Effective resolution of problems will include resolving problems following laid down procedures, performed within the scope and level of authority of a learner at NQF 3.

ASSESSMENT CRITERION 5

Unsafe or damaged vehicles, machinery or equipment, or vehicles, machinery or equipment which may impact adversely on the environment, are identified and appropriate action is taken.

ASSESSMENT CRITERION RANGE

Appropriate action refers to following workplace procedures and includes reporting, discontinuing use, or carrying out minor repairs as authorised.

SPECIFIC OUTCOME 2

Operate vehicles, machinery or equipment according to workplace standards and with regard to their impact on the environment.

OUTCOME RANGE

With regard to their impact on the environment: the potential and actual impacts on the environment of the vehicles, machinery or equipment are anticipated or identified and appropriate actions are taken.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Operations are carried out according to worksite procedures.

ASSESSMENT CRITERION RANGE

Operations include all operations relevant to the specific vehicle, machine or piece of equipment, including start-up, shut-down, change-overs, etc.

ASSESSMENT CRITERION 2

Vehicle, machine or equipment preparation is carried out according to worksite procedures and in an environmentally-responsible manner.

ASSESSMENT CRITERION RANGE

- Preparation may include plant layout, ensuring that auxiliary equipment is prepared or is in place, etc.
- Environmentally-responsible manner includes preventing wastage of water or energy, preventing pollution, avoiding leaks and spills, etc.

ASSESSMENT CRITERION 3

Routine maintenance is carried out according to worksite procedures and in an environmentally-responsible manner.

ASSESSMENT CRITERION RANGE

- Routine maintenance refers to operations such as cleaning, lubricating, unblocking nozzles, replacing blades, checking water and oil levels, replacing worn or damaged cables and plugs, tightening of bolts, simple adjustments and rust prevention, etc.
- Environmentally-responsible manner includes preventing wastage of water and energy, preventing pollution, avoiding leaks and spills, etc.

ASSESSMENT CRITERION 4

Operations are carried out efficiently and to safety, health, environmental and quality standards.

ASSESSMENT CRITERION RANGE

- Standards include legal requirements, standard operating procedures, organisational requirements and work instructions. .
- Safety includes use of personal protective clothing and equipment as appropriate for each operation, vehicle, machine and piece of equipment.

SPECIFIC OUTCOME 3

Record and report information related to the condition and operation of the vehicle, machine or equipment.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

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

ASSESSMENT CRITERION 2

Applicable reporting requirements are met.

SPECIFIC OUTCOME 4

Discuss and explain concepts and principles related to the operation of equipment.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The principles that underpin the structure and/or operation of the vehicle, machine or equipment are explained and related to workplace requirements.

ASSESSMENT CRITERION RANGE

This assessment criterion relates to having sufficient knowledge and understanding of such principles (mechanical, electrical, pneumatic, hydraulic, power, torque, etc) for the application of operational, maintenance and safety requirements, etc, to be meaningful to the learner.

ASSESSMENT CRITERION 2

The implications of incorrect preparation, start-up, operation, maintenance and/or shut-down of the vehicle, machine or equipment are described and explained.

ASSESSMENT CRITERION RANGE

The scope will be determined by the requirements of the specific vehicle, machine or piece of equipment.

ASSESSMENT CRITERION 3

Potential or actual impact(s) of the vehicle, machine or equipment and operations on the environment are explained, and measures taken to prevent, reduce or remedy them are described.

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:

- Specialised vehicles, complex machinery and equipment
- Attachment and auxiliaries (where applicable)
- Storage areas / facilities
- Services and consumables
- Personal protective equipment
- Routine maintenance tools
- Emergency or clean-up equipment
- Related terminology
- Team member roles

2. Purpose of:

- Specialised vehicles, complex machines and equipment
- Maintenance, features, operational procedures
- Health, safety and environmental procedures
- Emergency procedures
- Signs and symbols related to safety
- Using personal protective equipment
- Emergency or clean-up equipment and procedures
- Caring for the environment
- Documentation and recording of information
- Providing feedback, checking understanding of communication

3. Attributes, descriptions, characteristics & properties:

- Features of the vehicles, machinery or equipment
- The functioning of the vehicles, machinery or equipment and auxiliaries, services / consumables
- The concept of payload (if applicable)
- Characteristics of the particular technology
- The concept of cost effectiveness
- Typical problems and precautionary measures
- Related documentation
- Hazardous substances encountered in the learner's context and their careful use and safe handling (including legislative requirements)
- Effective communication methods

4. Processes and events:

- Operational processes
- Recording and reporting
- Routine maintenance
- Clean-up after accidents or spillages

5. Causes and effects, implications of:

- Not following correct operational procedures (start up, preparation, operation, shut down, storage, immobilisation, etc)
- Not monitoring operation of vehicle, machine or equipment
- Implications of not correctly caring for and performing maintenance on vehicle, machine or equipment
- Not adhering to specifications (eg overloading)
- Inaccurate or incomplete recording and reporting
- Implications for the environment of misuse of the vehicles, machine or equipment

- Potential impact on the reputation of the enterprise of environmental practices
 - Poor communication
6. Procedures and techniques:
- Correct operational procedures (pre-check, start up, operation, shut down, storage, etc)
 - Maintenance
 - Responding to damaged vehicles, machinery or equipment
 - Recording and reporting information related to the operation of the vehicle, machinery or equipment
 - Safety, health and environmental procedures
 - Emergency procedures
 - Techniques for preventing, correcting or remedying environmental impacts (eg for containing spillage, etc)
 - Procedures and techniques for working with materials
7. Sensory cues:
- Visual cues, smell, sound and touch associated with incorrect settings, loose bolts, incorrect operation, potential impact on the environment, etc
 - Reading body language (ie related to team leader role)
8. Regulations, legislation, agreements, policies, standards:
- Applicable health, safety and environmental legislation
 - Applicable waste legislation
 - Basic understanding of public liability
 - Operational standards
 - Rights and responsibilities of the individual regarding the environment
9. Theory: rules, principles, laws:
- Relevant mathematics and science
 - Related to the structure and operation of the vehicles, machinery or equipment
 - Basic understanding of leverage, force, pressure, torque, hydraulics, pneumatics, sources of power and the relationship between energy and power
 - Principles related to the movement and handling of materials
 - Principles related to the environmental impact of specific actions or operations
 - Basic understanding of principles and concepts related to cost effectiveness
 - Applicable environmental and waste management principles
10. Categories:
- Equipment, auxiliaries, services/consumables
11. Relationships, systems:
- Relationship between the characteristics and operation of vehicle, machinery or equipment and the individual's responsibility and obligations to the environment and human health and safety

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 operating specialised vehicles and/or complex machinery or equipment
 - > Related to anticipating impacts of the vehicle, machinery or equipment on the environment and taking appropriate action

UNIT STANDARD CCFO WORKING

- Work effectively with others:
 - > Work safely with due care for the health and well-being of others
 - > Perform duties associated with team leader position

UNIT STANDARD CCFO ORGANISING

- Organise and manage myself and my activities:
 - > Follow correct procedures when operating vehicle, machinery or equipment

UNIT STANDARD CCFO COLLECTING

- Collect, analyse, organise and critically evaluate information:

- > Use sensory information to assess the quality of team performance and the condition of the vehicle, machinery or equipment
- > Interpret and apply information related to team performance and the operation of the vehicle, machinery or equipment

UNIT STANDARD CCFO COMMUNICATING

- Communicate effectively
- > Record and report information related to team performance and the operation of the vehicle, machinery or equipment
- > Interact with supervisor and team members to receive and give instructions and feedback

UNIT STANDARD CCFO SCIENCE

- Use science and technology effectively and critically:
- > Apply basic understanding of leverage, force, pressure, torque, hydraulics, pneumatics, sources of power and the relationship between energy and power, in order to operate the vehicle, machinery or equipment effectively and safely

UNIT STANDARD CCFO DEMONSTRATING

- Demonstrate an understanding of the world as a set of related systems:
- > Describe the interrelationship between the characteristics, purpose and operation of the vehicle, machinery or equipment, and the individual's responsibility and obligations towards the environment and human health and safety

UNIT STANDARD ASSESSOR CRITERIA

N/A

REREGISTRATION HISTORY

As per the SAQA Board decision/s at that time, this unit standard was Reregistered in 2012; 2015.

UNIT STANDARD NOTES

N/A

QUALIFICATIONS UTILISING THIS UNIT STANDARD:

| | ID | QUALIFICATION TITLE | PRE-2009 NQF LEVEL | NQF LEVEL | STATUS | END DATE | PRIMARY OR DELEGATED QA FUNCTIONARY |
|------|-----------------------|--|---------------------------|------------------|---------------|-----------------|--|
| Core | 49752 | National Certificate: Environmental Practice | Level 3 | NQF Level 03 | Reregistered | 2023-06-30 | LG SETA |

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 Primary or Delegated Quality Assurance Functionaries 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 Primary or Delegated Quality Assurance Functionary should be notified if a record appears to be missing from here.

1. A4 Consultancy CC
2. ABA Sebenzi
3. Asiphokuhle Training and Research Institute
4. AVAX SA 481 CC. T/A Mandisa Development Services
5. Bantubanye Skills
6. BF QUALITY SOLUTIONS (PTY) LTD
7. Boni Africa Events & Development
8. Buena Vista Learning Academy
9. Classic Human Capital Solutions
10. CTC College(PTY) LTD.
11. Ditirelo Skills Development Services
12. Elective Training Institute Enterprise CC
13. ENVOY PLANET CONSULTING AND PROJECTS (PTY) LTD
14. Goitsikitso Enterprise Trading
15. Growth Management Consulting
16. Icando
17. Inafrica General Trading Pty LTD
18. IQ Skills Academy (PTY) LTD.

19. Iziko Capacity Building CC.
20. Kgolo Institute
21. KHOSITHI TRAINING
22. KOKANO PROJECTS PTY LTD
23. Letlotlo La Gae (Pty) Ltd
24. Lewerb Holdings (PTY) Ltd
25. LO Tantsi Fire Consultants CC.
26. Mabuya Amahle Trading
27. Mangalani Business Enterprises
28. Mind Magic Consulting
29. Mission Point Consulting
30. Mortarboard Training Solutions
31. Nermalale Eagles Consultancy CC
32. Networx for Career Development
33. NJ & L Trading Enterprise CC.
34. NOMAKU TRADERS CC
35. NS Global Academy
36. Pioneer Business Consulting
37. Power Rush Trading 170 CC.
38. PWI CORPORATE TRAINING PTY LTD
39. Senelo Trading CC
40. Siljeur Training Academy
41. SIZA NESU TRAINING AND DEVELOPMENT
42. Spring Forest Trading 578 CC
43. Talent Emporium Academy (PTY) Ltd
44. Thando Consulting Services
45. The Crimson CO CC.
46. Thubelihle Graduate Institute
47. TLD Consulting
48. Tloumogale Business Development & Consulting
49. Tshwane Skills Training Centre
50. Umfolozi FET College
51. University of Venda
52. Vicmat Consultants
53. XL AT Consulting CC
54. Ya Hina Management Consulting and projects

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