

**Domain****MINERAL PROCESSING**  
**Perform metallurgical tests****Title:****Level: 3****Credits: 6****Purpose**

This unit standard is intended for those who carry out metallurgical processing operations. People holding credit for this unit standard are able to: Plan and prepare for performing metallurgical tests; perform qualitative tests and procedures; perform quantitative tests; record results; and complete duties pertaining to testing.

**Special Notes**

1. Entry information:

## Prerequisite

- 1449 - *Comply with health, safety and environmental rules and regulations pertaining to processing operations; or demonstrated equivalent knowledge and skills.*
2. Assessment evidence may be collected from a real workplace or a simulated workplace in which processing operations are carried out.
  3. Safe working practices include day-to-day observation of safety policies and procedures and compliance with emergency procedures.
  4. Specifications refer to any, or all of the following: manufacturer's specifications and recommendations, and workplace specific requirements.
  5. Performance of all elements in this unit standard must comply with relevant regulatory, legislative, workplace requirements and/or manufacturers' specifications.
  6. Regulations and legislation, including subsequent amendments, relevant to this unit standard may include but are not limited to the following:
    - Labour Act, No. 11, 2007
    - Mineral Act, No. 33, 1992
    - Mine Health and Safety Regulations, 1999
    - Regulations relating to the Health and Safety of employees at work, 1997 and all industry specific regulations, legislations, code of practice, or code of conduct.

**Quality Assurance Requirements**

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website [www.nta.com.na](http://www.nta.com.na).

**Elements and Performance Criteria**

## **Element 1: Plan and prepare for performing metallurgical tests**

### **Performance Criteria**

- 1.1 The nature of the sample and the required test procedures are clarified and confirmed.
- 1.2 Safety and security requirements, including personal protective clothing and equipment are obtained from the site safety plan, workplace policies and procedures, explained, and applied to the allocated task.
- 1.3 Specifications for performing metallurgical tests and specified equipment are identified and their functions explained.
- 1.4 Test equipment, tools, and accessories selected to carry out tasks are checked for consistency with the requirements of the job, their usability and any faults rectified or reported prior to commencement of work.
- 1.5 Test equipment is set up and its calibration confirmed.
- 1.6 Environmental protection requirements are identified from the project environmental management plan and applied to the allocated task.

## **Element 2: Perform qualitative tests and procedures**

### **Performance Criteria**

- 2.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 2.2 Qualitative tests are performed and properties observed according to workplace procedures.
- 2.3 Data obtained are compared with standards or other reference materials and results recorded according to workplace procedures.
- 2.4 Tests are completed within required timeframe according to workplace procedures.
- 2.5 Specimen collections are maintained according to workplace procedures.

## **Element 3: Perform quantitative tests**

### **Performance Criteria**

- 3.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 3.2 Standardisation procedures are completed prior to the test and recorded according to workplace procedures.
- 3.3 Quantitative tests to measure properties are performed according to workplace procedures.
- 3.4 Data obtained are compared with standards or other reference materials and any outside reference range reported according to workplace procedures.

- 3.5 Tests are completed within required timeframe according to workplace procedures.

#### **Element 4: Record results**

##### **Performance Criteria**

- 4.1 Data obtained is recorded in line with workplace requirements.
- 4.2 Instrument readouts and data are converted in to a form suitable for interpretation using given formulae or conversion factors.
- 4.3 Results are compared with product specifications or other quality control information and any non-conformance reported.

#### **Element 5: Complete duties pertaining to testing**

##### **Range**

Housekeeping may include but is not limited to ensure the work area is ready for next user; remove work materials to designated locations; correctly identify waste and re-usable material; and remove waste and re-usable materials to designated locations.

##### **Performance Criteria**

- 5.1 Task-specific tools, personal protective and safety equipment, are cleaned, maintained and stored for further use according to workplace procedures.
- 5.2 Good housekeeping practices are maintained according to workplace procedures.
- 5.3 Reporting and recording requirements are met according to workplace procedures.
- 5.4 Work related documents are completed according to job requirements and workplace procedures.

#### **Registration Data**

<b>Subfield:</b>	Metallurgy
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<b>Body responsible for review:</b>	Namibia Training Authority