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**AIDS HELPLINE: 0800-0123-22 Prevention is the cure**

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## GOVERNMENT NOTICE

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### SOUTH AFRICAN QUALIFICATIONS AUTHORITY

No. 1348

26 September 2003

#### REGULATIONS RELATING TO LEVEL DESCRIPTORS FOR LEVELS 1 TO 4 OF THE NATIONAL QUALIFICATIONS FRAMEWORK

The South African Qualifications Authority has, under section 14 of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), with the approval of the Minister of Education and in consultation with the Minister of Labour, made the regulations in the Schedule.

#### SCHEDULE

##### Definitions

1. In these regulations any word or expression to which a meaning has been assigned in the Act shall have such meaning and, unless the context indicates otherwise -

"applied competence" means the ability to put into practice in the relevant context the learning outcomes acquired in obtaining a qualification;

"autonomy of learning" means the capacity of a learner for lifelong learning and includes the extent to which a learner can undertake action for learning independently, the extent to which a learner takes responsibility for his or her own learning and the extent to which a learner is self-reflexive about and can evaluate the quality of his or her learning and eventually that of others;

"field" means a particular area of learning used as an organising mechanism for the NQF;

"level descriptor" means that statement describing learning achievement at a particular level of the NQF;

"National Qualifications Framework "NQF" means the National Qualifications Framework as already in the Act;

"operational literacy" means an ability to use basic procedures and operations to complete complex tasks;

"unit standard" means registered statements of desired education and training outcomes and their associated assessment criteria together with administrative and other information as specified in the National Standards Bodies Regulations, 1998.

##### Purpose

2. Level descriptors for levels 1 to 4 of the NQF shall ensure coherence across fields of learning in the allocation of qualifications and standards to particular levels, and shall facilitate the assessment of the international comparability of standards and qualifications.

**Level descriptors, NQF level 1**

3. A learning programme leading to the award of a qualification or unit standards at NQF level 1 shall develop learners who demonstrate with regard to:

(a) applied competence -

- (i) a general knowledge of one or more areas or fields of study, in addition to the fundamental areas of study;
- (ii) an understanding of the context within which the learner operates;
- (iii) an ability to use key common tools and instruments;
- (iv) sound listening, speaking, reading and writing skills;
- (v) basic numeracy skills including an understanding of the symbolic systems;
- (vi) an ability to recognise and solve problems within a familiar, well-defined context;
- (vii) an ability to recall, collect and organise given information clearly and accurately; and
- (viii) an ability to report information clearly and accurately in spoken and written form;

(b) autonomy of learning -

- (i) a capacity to apply themselves to a well-defined task under direct supervision;
- (ii) an ability to sequence and schedule learning tasks;
- (iii) an ability to access and use a range of learning resources; and
- (iv) an ability to work as part of a group.

**Level descriptors, NQF level 2**

4. A learning programme leading to the award of a qualification or unit standards at NQF level 2 shall develop learners who demonstrate with regard to:

(a) applied competence -

- (i) a basic operational knowledge of one or more areas or fields of study, in addition to the fundamental areas of study;
- (ii) an understanding of the environment within which the learner operates in a wider context;
- (iii) an ability to use a variety of common tools and instruments;
- (iv) the ability to apply literacy and numeracy skills to a range of different but familiar contexts;
- (v) an ability to use their knowledge to select and apply known solutions to well-defined routine problems;
- (vi) a basic ability to collect, organise and report information clearly and accurately; and
- (vii) an ability to express an opinion on given information clearly in spoken and written form;

(a) autonomy of learning -

- (i) a capacity to work and learn in a disciplined manner in a well-structured and supervised environment;
- (ii) an ability to manage their time effectively; and
- (iii) an ability to develop sound working relationships and an ability to work effectively as part of a group.

**Level descriptors, NQF level 3**

5. A learning programme leading to the award of a qualification or unit standards at NQF level 3 shall develop learners who demonstrate with regard to:

(a) applied competence -

- (i) a basic understanding of one or more fields' or disciplines' key concepts and knowledge, in addition to the fundamental areas of study;
- (ii) an understanding of the organisation or operating environment as a system;
- (iii) application of skills in measuring the environment using key instruments and equipment;
- (iv) operational literacy;
- (v) an ability to use their knowledge to select appropriate procedures to solve problems within given parameters;
- (vi) a basic ability to summarise and interpret information relevant to the context from a range of sources;
- (vii) an ability to take a position on available information, discuss the issues and reach a resolution; and
- (viii) produce a coherent presentation and report, providing explanations for positions taken;

(a) autonomy of learning -

- (i) a capacity to operate within clearly defined contexts;
- (ii) an ability to work and learn within a managed environment; and
- (iii) capacity to actively contribute to team effectiveness.

**Level descriptors, NQF level 4**

6. A learning programme leading to the award of a qualification or unit standards at NQF level 4 shall develop learners who demonstrate with regard to:

(a) applied competence -

- (i) a fundamental knowledge base of the most important areas of one or more fields or disciplines, in addition to the fundamental areas of study;
- (ii) an informed understanding of the key terms, rules, concepts, established principles and theories in one or more fields or disciplines;

- (iii) an understanding of the organisation or operating environment as a system within a wider context;
- (iv) an ability to apply essential methods, procedures and techniques of the field or discipline;
- (v) an ability to apply and carry out actions by interpreting information from text and operational symbols or representations;
- (vi) an ability to use their knowledge to solve common problems within a familiar context;
- (vii) an ability to adjust an application of a common solution within relevant parameters to meet the needs of small changes in the problem or operating context;
- (viii) an ability to motivate the change using relevant evidence;
- (ix) a basic ability in gathering relevant information, analysis and evaluation skills; and
- (x) an ability to communicate and present information reliably and accurately in writing and verbally;

**(a) autonomy of learning -**

- (i) a capacity to take responsibility for their own learning within a supervised environment;
- (ii) a capacity to take decisions about and responsibility for actions;
- (iii) a capacity to evaluate their own performance against given criteria; and
- (iv) a capacity to take the initiative to address any shortcomings they find.

**Short title**

7. These Regulations shall be called the Level Descriptors Regulations (NQF levels 1 to 4), 2003.

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## GENERAL NOTICES

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### NOTICE 2505 OF 2003

#### SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In order to proceed with the recognition of Standards Generating Bodies in terms of Government Regulations 19(1)(c) and 22(2) of 28 March 1998, National Standards Body 09, Health Sciences and Social Services invites public comment with respect to *the acceptability of the nominees and the representativeness of the key education and training stakeholder interest groups* listed as SGB applicants below.

**In addition, the NSB invite submissions from interested parties wishing to serve on such an SGB.** Interested parties should take note of the section on SGB Information below.

**All nominations/ applications should be accompanied by curricula vitae.**

More information regarding this application may be obtained on the SAQA website or from the SAQA offices.

Comment should reach the NSB at the address below by not later than **27 October 2003**. All correspondence should be marked **SGB for Child and Youth and Care Work** and be addressed to:

The Director: Standards Setting and  
Development  
SAQA  
*Attention: Mr. D Mphuthing*  
Postnet Suite 248  
Private Bag X06  
Waterkloof  
0145  
or faxed to 012 – 4315119  
e-mail: [dmpthuthing@saqa.co.za](mailto:dmpthuthing@saqa.co.za)

#### SGB INFORMATION

As a necessary step in the development and implementation of the National Qualifications Framework, The National Standards Bodies are briefed [regulation 19(1)(c) of 28 March 1998] to recognise or establish Standards Generating Bodies (SGBs).

SGBs shall:

- a. generate standards and qualifications in accordance with the Authority requirements in identified sub-fields and levels;
- b. update and review standards;
- c. recommend standards and qualifications to National Standards Bodies;
- d. recommend criteria for the registration of assessors and moderators or moderating bodies; and

- e. perform such other functions as may from time-to-time be delegated by their National Standards Body.

Any bodies wishing to nominate representatives, make application to serve on, or make any other submission with regard to the above SGB should note the following information.

SGBs should be composed of organisations, which shall be key education and training stakeholder interest groups and experts in the sub-field. The NSB, when making its final decisions will have due regard for, among other things, *'the need for representativeness and equity, redress and relevant expertise in terms of the work of the SGBs.'*

Organisations proposing to nominate persons to SGBs should be sensitive to the need for **equity** and **redress**, and shall nominate persons who-

- (a) will be able to consider issues of productivity, fairness, public interest and international comparability as related to education and training in the sub-field;
- (b) enjoy credibility in the sub-field in question, who enjoy respect; have the necessary expertise and experience in the sub-field and have the support or backing of the nominating body;
- (c) are able to advocate and mediate the needs and interests of all levels within the sub-field covered by the Standards Generating Body;
- (d) are able to exercise critical judgement at a high level; and
- (e) are committed to a communication process between the Standards Generating Body, the National Standards Body and the Constituency.

**PUBLIC NOTICE BY NSB 09, HEALTH SCIENCES AND SOCIAL SERVICES, OF AN APPLICATION TO REGISTER AN SGB FOR CHILD AND YOUTH AND CARE WORK**

NSB 09 has received an application to recognise and register an SGB for Child and Youth Care Work for NQF levels 1 - 8

**Proposed Brief of the SGB**

1. Develop learning pathways for a potential qualification and unit standards in the area of child and youth care work from level 1 through to level 7 *[Regulation 24 (1)(a)]*.
2. Generate qualifications and standards in the areas of child and youth care work in terms of requirements of relevant legislation and the establishment of best practises and ethics across the working environment. These will include
  - National Certificate for Child and Youth Care Work at level 4
  - National Certificate for Child and Youth Care Work at level 5
  - National Diploma for Child and Youth Care Work at level 6
  - Professional Degree in Child and Youth Care Work at level 7
  - Master's and Doctoral Degrees in Child and Youth Care Work at level 8*[Regulation 24 (1)(a)]*.
3. Ensure that practising professionals fulfil the requirements for registration with the South African Council for Social Service Professions *[Regulation 24 (1)(e)]*.
4. Recommend the qualification and standards generated under 1 and 2 above to the NSB *[Regulation 24 (1)(c)]*.
5. Recommend criteria for the registration of assessors and moderators or moderating bodies *[Regulation 24 (1)(d)]*.
6. Liaise with other NSBs and SGBs – within and outside NSB 09 – which have vested interests in the subject of child and youth care work *[Regulation 24 (1)(e)]*.
7. Perform such other functions as may from time to time be delegated by NSB 09: Health Sciences and Social Services *[Regulation 24 (1)(e)]*.

**PROPOSED SGB FOR CHILD AND YOUTH CARE WORKERS**

| <b>Nominee</b>  | <b>Workplace</b>   | <b>Nominating Body</b>                                 | <b>Qualifications / Experience</b>   |
|-----------------|--|--|--|
| Allsopp, M      | National Association of Child and Youth Care Workers (NACCW) | NACCW  | BA HDE; Nat Higher Cert in Residential Child Care (NHCRRC) 22 years' clinical experience; 18 years' managerial |
| Booyens, M      | University of Cape Town: Dept of Social Development          | SA Universities Vice-Chancellors' Association (SAUVCA) | D Phil 9 Social Work); 10 years' clinical; 17 years' lecturing   |
| Cornelius, FGC  | Ons Kinderhuis Kroonstad                                     | NACCW  | NHCRRC; 12 years' clinical; 4 years' managerial  |
| de Kock, D      | Technikon SA Florida   | Committee of Technikon Principals (CTP)                | D Litt et Phil (Social Work); 9 years' clinical; 10 years' teaching  |
| Dlamini, M S    | Epworth Children's Village                                   | Epworth Children's Village                             | Cert (UNISA) - Child & Youth Care; 7 years' clinical   |
| du Toit, L S    | Child & Youth Care Agency for Development, Pretoria          | SA Council for Social Service Professions (SACSSP)     | M Sc (Child & Youth Care Work); 18 years' clinical experience  |
| Lodge, B J      | St John's Anglican Church, Belgravia, Jhb                    | NACCW  | B A; B Ed; 20 years' teaching experience; 16 years clinical  |
| Mabuya, P P N   | Dept Social Work, Fort Hare University                       | SAUVCA   | M S W; 6 years' teaching; 2 years clinical; 23 years' lecturing  |
| Mc Namara, D H  | Bosasa Operations, Eerste Rivier, Cape Town                  | Bosasa Operations, Eerste Rivier, Cape Town            | B Soc Sc; Adv Dip Social Work; 12 years' clinical; 4 years' managerial   |
| Modungwa, N M M | SOS Children's Villages Lanseria                             | SOS Children's Villages Lanseria                       | M Cur (Psychiatric Nursing); 18 years' clinical nursing; 9 years lecturing; 4 years' managerial                |
| Molepo, L P     | Rhema Christian Service Foundation                           | Rhema Christian Service Foundation                     | B A; HED; 16 Years' Clinical experience  |
| Oosthuizen, S   | NACCW  | NACCW  | Cert Child & Youth Care; 13 years' clinical experience   |
| Pavey, G A      | The Salvation Army Firlands Children's Home                  | The Salvation Army Firlands Children's Home            | Cert Child & Youth Care; 21 years' clinical experience   |
| Pruis, S        | SA Council for Social Service Professions (SACSSP)           | SACSSP   | M Soc Sc (Social Work); ± 20 years' clinical and managerial experience   |
| Rens, M A       | Dept Social Services, N.Cape                                 | Provincial Government                                  | Dip Child & Youth Care; ± 20 years' clinical experience  |
| Schreuder, L    | S A National Council for Child & Family Welfare (SANCCFW)    | SANCCFW  | M Social Work; 25 years' clinical experience; 12 years' managerial   |
| Scott, K J      | NACCW  | NACCW  | B Soc Sc (Social Work); 22 years' clinical experience; 6 years' managerial                                     |
| Siluma, M       | Technikon SA   | CTP  | B Sc; 7 years' clinical experience; 2 years' managerial  |
| Thumbadoo, Z S  | NACCW  | NACCW  | B A Social Work; 11 years' clinical; 3 years' lecturing; 7 years' managerial                                   |
| Waspe, M A      | St George's Home, Edenvale                                   | St George's Home, Edenvale                             | Nat Dip Child & Youth Development;   |
| Winfield, J A   | Durban Institution of Technology (DIT)                       | CTP  | B Soc Sc; B A (Hons) Psychology; 4 years' clinical experience; 9 years' lecturing                              |

**NOTICE 2506 OF 2003****SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

In accordance with regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

**Mining and Minerals**

Registered by **NSB 06, Manufacturing, Engineering and Technology** publishes the following unit standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the unit standards upon which qualifications are based. The unit standards can be accessed via the SAQA web-site at [www.saga.org.za](http://www.saga.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum West, 1067 Arcadia Street, Hatfield.

Comment on the unit standards should reach SAQA at the address *below and no later than 27 October 2003*. All correspondence should be marked **Standards Setting – SGB for Mining and Minerals** and addressed to

The Director: Standards Setting and Development  
SAQA

Attention: *Mr. D Mphuthing*

Postnet Suite 248

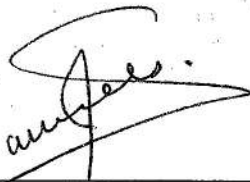
Private Bag X06

Waterkloof

0145

or faxed to 012 – 431 5144

e-mail: [mmphuthing@saqa.co.za](mailto:mmphuthing@saqa.co.za)



**JOE SAMUELS**

**DIRECTOR: STANDARDS SETTING AND DEVELOPMENT**



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

1

**Demonstrate an understanding of typical basic underground hard rock mining processes and layouts**

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |         |
|---|--|----------------------------|---------|
| 110417                                    | Demonstrate an understanding of typical basic underground hard rock mining processes and layouts |                            |         |
| SGB NAME                                  | ABET BAND  | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined  |                            |         |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular  | Level 1                    | 2       |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Demonstrate understanding of basic mining processes.

#### **SPECIFIC OUTCOME 2**

Demonstrate understanding of basic mining layouts.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

2

**Demonstrate understanding and knowledge of different activities related to the processing of minerals in the mining and minerals sector**

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
|---|---|----------------------------|---------------|
| 110430                                    | Demonstrate understanding and knowledge of different activities related to the processing of minerals in the mining and minerals sector |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 1                    | 14            |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Demonstrate understanding and knowledge of the size reduction processes.

#### **SPECIFIC OUTCOME 2**

Demonstrate understanding and knowledge of the classification processes in a metallurgical plant.

#### **SPECIFIC OUTCOME 3**

Demonstrate understanding and knowledge of the beneficiation processes in a metallurgical plant.

#### **SPECIFIC OUTCOME 4**

Demonstrate understanding and knowledge of the chemical processing techniques.

#### **SPECIFIC OUTCOME 5**

Demonstrate understanding and knowledge of the dewatering processes in a metallurgical plant.

#### **SPECIFIC OUTCOME 6**

Demonstrate understanding and knowledge of the high temperature metallurgical processes.

#### **SPECIFIC OUTCOME 7**

Demonstrate understanding and knowledge of the refining processes in a metallurgical plant.

#### **SPECIFIC OUTCOME 8**

Demonstrate understanding and knowledge of the materials transport processes.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

3

#### Blend platinum group metal bearing residues

| SAQA US ID                                | UNIT STANDARD TITLE                         |                            |               |
|---|---|----------------------------|---------------|
| 110377                                    | Blend platinum group metal bearing residues |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                          | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular                                     | Level 2                    | 4             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the blending of residues.

##### **SPECIFIC OUTCOME 2**

Prepare to blend residues.

##### **SPECIFIC OUTCOME 3**

Blend residues.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the blending process.



Established in terms of Act 54 of 1995

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

4

**Carry out a close inspection on a gully box**

| SAQA US ID                                | UNIT STANDARD TITLE                         |                            |               |
|---|---|----------------------------|---------------|
| 110435                                    | Carry out a close inspection on a gully box |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                          | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular                                     | Level 2                    | 2             |

**Specific Outcomes:****SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection and cleaning of a gully box.

**SPECIFIC OUTCOME 2**

Prepare to inspect and clean the gully box.

**SPECIFIC OUTCOME 3**

Inspect and clean the gully box.

**SPECIFIC OUTCOME 4**

Prepare and test the gully box for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

5

#### Carry out a detailed inspection on a continuous mining machine

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110423                                    | Carry out a detailed inspection on a continuous mining machine |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                    | 5             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection of a continuous miner.

##### **SPECIFIC OUTCOME 2**

Prepare to inspect the continuous miner.

##### **SPECIFIC OUTCOME 3**

Inspect the continuous miner.

##### **SPECIFIC OUTCOME 4**

Test the continuous miner and prepare for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

6

**Carry out a detailed inspection on a self-propelled battery powered mobile machine**

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>   |                             |                      |
| 110390                                    | Carry out a detailed inspection on a self-propelled battery powered mobile machine |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>  | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                     | 3                    |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection of a battery-powered machine.

#### **SPECIFIC OUTCOME 2**

Prepare to inspect the machine.

#### **SPECIFIC OUTCOME 3**

Inspect the machine.

#### **SPECIFIC OUTCOME 4**

Prepare and test the machine for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

7

**Carry out a detailed inspection on a shaft communication system**

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                                      |                             |                      |
| 110439                                    | Carry out a detailed inspection on a shaft communication system |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                                       | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 1                    |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection of a shaft communication system.

#### **SPECIFIC OUTCOME 2**

Prepare to inspect the shaft communication system.

#### **SPECIFIC OUTCOME 3**

Inspect the shaft communication system.

#### **SPECIFIC OUTCOME 4**

Prepare the shaft communication system for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

8

#### Carry out a detailed inspection on a shaft signalling system

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110437                                    | Carry out a detailed inspection on a shaft signalling system |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                    | 3             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection of a shaft signalling system.

##### **SPECIFIC OUTCOME 2**

Prepare to inspect the shaft signalling system.

##### **SPECIFIC OUTCOME 3**

Inspect the shaft signalling system.

##### **SPECIFIC OUTCOME 4**

Prepare and test the shaft signalling system for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

9

**Carry out a detailed inspection on an overhead trolley line**

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |         |
|---|---|----------------------------|---------|
| 110387                                    | Carry out a detailed inspection on an overhead trolley line |                            |         |
| SGB NAME                                  | ABET BAND   | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined   |                            |         |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 4       |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Explain the requirements for an inspection on an overhead trolley line.

#### **SPECIFIC OUTCOME 2**

Prepare to inspect the overhead trolley line.

#### **SPECIFIC OUTCOME 3**

Inspect the overhead trolley line.

#### **SPECIFIC OUTCOME 4**

Test and prepare the trolley line for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

10

**Carry out a detailed inspection on increased safety apparatus**

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                                    |                             |                      |
| 110415                                    | Carry out a detailed inspection on increased safety apparatus |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                                     | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 3                    |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection of increased safety apparatus.

#### **SPECIFIC OUTCOME 2**

Prepare to inspect increased safety apparatus.

#### **SPECIFIC OUTCOME 3**

Inspect the increased safety apparatus.

#### **SPECIFIC OUTCOME 4**

Prepare and test the apparatus for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

11

**Carry out a detailed inspection on intrinsically safe apparatus and circuits**

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>   |                             |                      |
| 110404                                    | Carry out a detailed inspection on intrinsically safe apparatus and circuits |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>  | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                     | 3                    |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection of intrinsically safe apparatus and circuits.

#### **SPECIFIC OUTCOME 2**

Prepare to inspect the intrinsically safe apparatus and circuits.

#### **SPECIFIC OUTCOME 3**

Inspect the intrinsically safe apparatus and circuits.

#### **SPECIFIC OUTCOME 4**

Restore apparatus and circuits to operational status.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

12

Carry out a detailed inspection on low voltage switchgear

| SAQA US ID                                | UNIT STANDARD TITLE                                       |                            |         |
|---|---|----------------------------|---------|
| 110403                                    | Carry out a detailed inspection on low voltage switchgear |                            |         |
| SGB NAME                                  | ABET BAND   | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined   |                            |         |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 3       |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the inspection of low voltage switchgear.

#### **SPECIFIC OUTCOME 2**

Prepare to inspect the switchgear.

#### **SPECIFIC OUTCOME 3**

Inspect the switchgear.

#### **SPECIFIC OUTCOME 4**

Test the switchgear and prepare for operation and / or production.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

13

#### Clarify a solution by means of a hopper clarifier

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                        |                             |                      |
| 110410                                    | Clarify a solution by means of a hopper clarifier |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                         | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 6                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the clarification of a solution.

##### **SPECIFIC OUTCOME 2**

Prepare to clarify solution.

##### **SPECIFIC OUTCOME 3**

Clarify solution.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the clarification process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

14

**Clarify a solution by means of a sand clarifier**

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                      |                             |                      |
| 110411                                    | Clarify a solution by means of a sand clarifier |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                       | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 6                    |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the clarification of a solution.

#### **SPECIFIC OUTCOME 2**

Prepare to clarify solution.

#### **SPECIFIC OUTCOME 3**

Clarify solution.

#### **SPECIFIC OUTCOME 4**

Complete duties pertaining to the clarification process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

15

**Clarify a solution by means of leaf clarifier**

| SAQA US ID                                |                    | UNIT STANDARD TITLE                           |               |
|---|--------------------|---|---------------|
| 110395                                    |                    | Clarify a solution by means of leaf clarifier |               |
| SGB NAME                                  |                    | ABET BAND                                     | PROVIDER NAME |
| SGB Mining and Minerals                   |                    | Undefined                                     |               |
| FIELD DESCRIPTION                         |                    | SUBFIELD DESCRIPTION                          |               |
| Manufacturing, Engineering and Technology |                    | Fabrication and Extraction                    |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE | NQF LEVEL                                     | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular            | Level 2                                       | 6             |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the clarification of a solution.

#### **SPECIFIC OUTCOME 2**

Prepare to clarify solution.

#### **SPECIFIC OUTCOME 3**

Clarify solution.

#### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the clarification process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

16

**Connect an industrial plug rated higher than 16 Ampere**

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                             |                             |                      |
| 110433                                    | Connect an industrial plug rated higher than 16 Ampere |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                              | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                     | 2                    |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to connecting an industrial plug.

#### **SPECIFIC OUTCOME 2**

Prepare to connect the plug.

#### **SPECIFIC OUTCOME 3**

Connect the plug.

#### **SPECIFIC OUTCOME 4**

Test the plug and perform reporting and housekeeping duties.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

17

#### Control water quality in a cooling system

|   |   |                            |               |
|---|---|----------------------------|---------------|
| SAQA US ID                                | UNIT STANDARD TITLE                       |                            |               |
| 110412                                    | Control water quality in a cooling system |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                        | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular                                   | Level 2                    | 6             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the control of water quality.

##### **SPECIFIC OUTCOME 2**

Prepare to control water quality.

##### **SPECIFIC OUTCOME 3**

Control water quality.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the water quality control process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

18

#### Create jewellery utilising non-precious materials

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                        |                             |                      |
| 110409                                    | Create jewellery utilising non-precious materials |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                         | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 4                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Select the correct tools and equipment in accordance with the task requirements.

##### **SPECIFIC OUTCOME 2**

Prepare selected non-precious materials and manufacture jewellery according to selected design.

##### **SPECIFIC OUTCOME 3**

Demonstrate an understanding of design principles through application.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

19

#### Crystallise salts from a solution

| SAQA US ID                                | UNIT STANDARD TITLE               |                            |               |
|---|-----------------------------------|----------------------------|---------------|
| 110446                                    | Crystallise salts from a solution |                            |               |
| SGB NAME                                  |                                   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |                                   | Undefined                  |               |
| FIELD DESCRIPTION                         |                                   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |                                   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular                           | Level 2                    | 3             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the crystallisation of salts.

##### **SPECIFIC OUTCOME 2**

Prepare to concentrate liquor.

##### **SPECIFIC OUTCOME 3**

Crystallise salts.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the crystallisation process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

20

#### De-commission a catalytic converter system for cyclic maintenance

|   |   |                            |               |
|---|---|----------------------------|---------------|
| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
| 110422                                    | De-commission a catalytic converter system for cyclic maintenance |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 8             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the de-commissioning of a converter system for maintenance.

##### **SPECIFIC OUTCOME 2**

Prepare to de-commission a converter system.

##### **SPECIFIC OUTCOME 3**

De-commission a converter system.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the de-commissioning process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

21

#### Determine sulphur dioxide gas concentration by means of the Reicher test

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>   |                             |                      |
| 110413                                    | Determine sulphur dioxide gas concentration by means of the Reicher test |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>  | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                     | 6                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the determining of sulphur dioxide gas concentration.

##### **SPECIFIC OUTCOME 2**

Prepare to determine gas concentration.

##### **SPECIFIC OUTCOME 3**

Determine gas concentration.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the gas concentration determining process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

22

#### Dispatch base metals

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |         |
|---|----------------------|----------------------------|---------|
| 110407                                    | Dispatch base metals |                            |         |
| SGB NAME                                  | ABET BAND            | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined            |                            |         |
| FIELD DESCRIPTION                         |                      | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |                      | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS |
| MET-ENG-0-SGB MM                          | Regular              | Level 2                    | 4       |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the dispatch process.

##### **SPECIFIC OUTCOME 2**

Prepare to dispatch base metals.

##### **SPECIFIC OUTCOME 3**

Dispatch base metals.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the dispatch process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

23

### Handle sodium hypo-chloride safely in a metallurgical plant

|   |   |                            |               |
|---|---|----------------------------|---------------|
| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
| 110449                                    | Handle sodium hypo-chloride safely in a metallurgical plant |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 4             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the handling of sodium hypo-chloride.

##### **SPECIFIC OUTCOME 2**

Prepare to handle sodium hypo-chloride.

##### **SPECIFIC OUTCOME 3**

Handle sodium hypo-chloride.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the sodium hypo-chloride handling process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

24

**Identify and deal with rock strata conditions when working or travelling within an underground-working place**

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |         |
|---|--|----------------------------|---------|
| 110406                                    | Identify and deal with rock strata conditions when working or travelling within an underground-working place |                            |         |
| SGB NAME                                  | ABET BAND  | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined  |                            |         |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS |
| MET-ENG-0-SGB MM                          | Regular  | Level 2                    | 2       |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to bacteriological tests.

#### **SPECIFIC OUTCOME 2**

Demonstrate understanding of rock strata conditions.

#### **SPECIFIC OUTCOME 3**

Identify and deal with rock strata conditions.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

25

**Identify and maintain the basic hand tools and basic jewellery equipment**

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>   |                             |                      |
| 110376                                    | Identify and maintain the basic hand tools and basic jewellery equipment |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>  | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                     | 1                    |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Identify and maintain basic hand tools.

#### **SPECIFIC OUTCOME 2**

Identify and maintain jewellery power tools and basic workshop equipment.

#### **SPECIFIC OUTCOME 3**

Demonstrate an understanding of workplace housekeeping.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

26

**Incorporate cold enamelling techniques into jewellery and related artefacts**

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>  |                             |                      |
| 110414                                    | Incorporate cold enamelling techniques into jewellery and related artefacts |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>   | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 2                    |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Clean and prepare a supplied piece of jewellery or related artefact.

#### **SPECIFIC OUTCOME 2**

Prepare cold enamels.

#### **SPECIFIC OUTCOME 3**

Finish a piece of jewellery or related artefact.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

27

**Install an industrial socket outlet rated higher than 16 Ampere**

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                                      |                             |                      |
| 110394                                    | Install an industrial socket outlet rated higher than 16 Ampere |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                                       | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 2                    |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Explain the requirements pertaining to the installation of an industrial socket outlet.

#### **SPECIFIC OUTCOME 2**

Prepare to install the socket outlet.

#### **SPECIFIC OUTCOME 3**

Install the socket outlet.

#### **SPECIFIC OUTCOME 4**

Test the socket outlet and perform reporting and housekeeping duties.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

28

#### Isolate and restore power to a low voltage electrical system

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110397                                    | Isolate and restore power to a low voltage electrical system |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                    | 2             |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Explain the procedures and terms related to isolation and power restoration.

##### **SPECIFIC OUTCOME 2**

Prepare to isolate.

##### **SPECIFIC OUTCOME 3**

Isolate the circuit.

##### **SPECIFIC OUTCOME 4**

Restore power to the system.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

29

#### Make up a sodium hypo-chloride solution in a metallurgical plant

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110375                                    | Make up a sodium hypo-chloride solution in a metallurgical plant |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                    | 4             |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the making up of a sodium hypo-chloride solution.

##### **SPECIFIC OUTCOME 2**

Prepare to make up a sodium hypo-chloride solution.

##### **SPECIFIC OUTCOME 3**

Make up a sodium hypo-chloride solution.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the making up of a sodium hypo-chloride solution.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

30

#### Make up an organic reagent in a metallurgical plant

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                          |                             |                      |
| 110385                                    | Make up an organic reagent in a metallurgical plant |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                           | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 3                    |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the make-up of an organic reagent.

##### **SPECIFIC OUTCOME 2**

Prepare to make up an organic reagent.

##### **SPECIFIC OUTCOME 3**

Make-up an organic reagent.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the make-up of an organic reagent.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

31

### Make up antifoam in a metallurgical plant

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                |                             |                      |
| 110396                                    | Make up antifoam in a metallurgical plant |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                 | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular                                   | Level 2                     | 3                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the make-up of antifoam.

##### **SPECIFIC OUTCOME 2**

Prepare to make-up antifoam.

##### **SPECIFIC OUTCOME 3**

Make-up antifoam.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the make-up of antifoam.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

32

### Make-up a Ferro-silicon suspension in a metallurgical plant

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
|---|---|----------------------------|---------------|
| 110426                                    | Make-up a Ferro-silicon suspension in a metallurgical plant |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 4             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the making up of a ferro-silicon suspension.

##### **SPECIFIC OUTCOME 2**

Prepare to make-up a ferro-silicon suspension.

##### **SPECIFIC OUTCOME 3**

Make-up a ferro-silicon suspension.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the making up of a ferro-silicon suspension.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

33

### Manufacture non-ferrous and precious metal jewellery using hand tools and basic jewellery equipment

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |         |
|---|---|----------------------------|---------|
| 110381                                    | Manufacture non-ferrous and precious metal jewellery using hand tools and basic jewellery equipment |                            |         |
| SGB NAME                                  | ABET BAND   | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined   |                            |         |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 4       |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Manipulate pre-prepared wire with pliers to manufacture jewellery.

#### **SPECIFIC OUTCOME 2**

Mark, score and measure pre-prepared metal sheet.

#### **SPECIFIC OUTCOME 3**

Drill and pierce or cut basic shapes from metal plate and neaten edges with a file.

#### **SPECIFIC OUTCOME 4**

Manipulate and hold metal plate with pliers.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

34

**Produce a piece of jewellery using the cuttlebone casting technique**

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
|---|---|----------------------------|---------------|
| 110392                                    | Produce a piece of jewellery using the cuttlebone casting technique |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 2             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Create the mould cavity.

##### **SPECIFIC OUTCOME 2**

Do the cast.

##### **SPECIFIC OUTCOME 3**

Finish off casting.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

35

#### Recover precious metals from combustible waste by means of an incinerator

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
|---|---|----------------------------|---------------|
| 110436                                    | Recover precious metals from combustible waste by means of an incinerator |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                    | 6             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the incineration process.

##### **SPECIFIC OUTCOME 2**

Prepare to incinerate waste.

##### **SPECIFIC OUTCOME 3**

Incinerate waste.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the incineration process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

36

#### Remove redundant combination liner from an arc furnace

| SAQA US ID                                | UNIT STANDARD TITLE                                    |                            |               |
|---|--|----------------------------|---------------|
| 110428                                    | Remove redundant combination liner from an arc furnace |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                                     | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                    | 3             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to removing the redundant liner.

##### **SPECIFIC OUTCOME 2**

Prepare to replace the redundant liner.

##### **SPECIFIC OUTCOME 3**

Remove the redundant liner.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the liner removal process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

37

#### Remove solid impurities from a liquid by means of a Funda filter

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110408                                    | Remove solid impurities from a liquid by means of a Funda filter |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                    | 6             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the solid removal of solid impurities from a liquid.

##### **SPECIFIC OUTCOME 2**

Prepare to remove solid impurities from a liquid.

##### **SPECIFIC OUTCOME 3**

Remove solid impurities from a liquid.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the solid removal process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

38

#### Replace a low voltage electrical cable

| SAQA US ID                                | UNIT STANDARD TITLE                    |                            |               |
|---|--|----------------------------|---------------|
| 110432                                    | Replace a low voltage electrical cable |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                     | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular                                | Level 2                    | 3             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Describe the requirements pertaining to replacing, handling and securing of cables.

##### **SPECIFIC OUTCOME 2**

Prepare to replace the cable.

##### **SPECIFIC OUTCOME 3**

Replace the cable.

##### **SPECIFIC OUTCOME 4**

Prepare and test the equipment for operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

39

#### Replace merrill filter bags

| SAQA US ID                                | UNIT STANDARD TITLE         |                            |         |
|---|-----------------------------|----------------------------|---------|
| 110454                                    | Replace merrill filter bags |                            |         |
| SGB NAME                                  | ABET BAND                   | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined                   |                            |         |
| FIELD DESCRIPTION                         |                             | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |                             | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE          | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular                     | Level 2                    | 4       |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the replacement of merrill filter bags.

##### **SPECIFIC OUTCOME 2**

Prepare to replace merrill filter bags.

##### **SPECIFIC OUTCOME 3**

Replace merrill filter bags.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the replacement of merrill filter bags.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

40

#### Replace stellar filter candles

| SAQA US ID                                | UNIT STANDARD TITLE            |                            |               |
|---|--------------------------------|----------------------------|---------------|
| 110450                                    | Replace stellar filter candles |                            |               |
| SGB NAME                                  |                                | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |                                | Undefined                  |               |
| FIELD DESCRIPTION                         |                                | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |                                | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE             | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular                        | Level 2                    | 4             |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the replacement of stellar filter candles.

##### **SPECIFIC OUTCOME 2**

Prepare to replace stellar filter candles.

##### **SPECIFIC OUTCOME 3**

Replace stellar filter candles.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the replacement of stellar filter candles.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

41

#### Separate liquid from solids by means of a vacuum tank filter

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                                   |                             |                      |
| 110402                                    | Separate liquid from solids by means of a vacuum tank filter |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                                    | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                     | 4                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the separation of liquid from solids.

##### **SPECIFIC OUTCOME 2**

Prepare to separate liquid from solids.

##### **SPECIFIC OUTCOME 3**

Separate liquid from solids.

##### **SPECIFIC OUTCOME 4**

Complete duties pertaining to the filtration process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

42

Separate material by means of a linear screen

| SAQA US ID                                | UNIT STANDARD TITLE                           |                            |               |
|---|---|----------------------------|---------------|
| 110379                                    | Separate material by means of a linear screen |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                            | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular                                       | Level 2                    | 3             |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the separation of material by means of a linear screen.

#### **SPECIFIC OUTCOME 2**

Prepare to separate material.

#### **SPECIFIC OUTCOME 3**

Separate material.

#### **SPECIFIC OUTCOME 4**

Complete duties pertaining to the separating process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

43

### String beads and pearls

| SAQA US ID                                | UNIT STANDARD TITLE     |                            |         |
|---|-------------------------|----------------------------|---------|
| 110465                                    | String beads and pearls |                            |         |
| SGB NAME                                  | ABET BAND               | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined               |                            |         |
| FIELD DESCRIPTION                         |                         | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |                         | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE      | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular                 | Level 2                    | 4       |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Utilize the correct tools and equipment for pearl and bead stringing.

#### **SPECIFIC OUTCOME 2**

Hand knot between beads and pearls.

#### **SPECIFIC OUTCOME 3**

Attach a clasp with French wire.

#### **SPECIFIC OUTCOME 4**

Finish a necklace without a clasp.

#### **SPECIFIC OUTCOME 5**

Demonstrate and understanding of style and lengths of pearl necklaces.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

44

#### Strip nickel from titanium starter sheets in an electro-winning process

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>  |                             |                      |
| 110444                                    | Strip nickel from titanium starter sheets in an electro-winning process |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>   | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 2                     | 4                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the stripping of nickel from titanium starter sheets.

##### **SPECIFIC OUTCOME 2**

Prepare to strip starter sheets.

##### **SPECIFIC OUTCOME 3**

Strip starter sheets.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the starter sheet stripping process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

45

#### Transfer material by means of a metal-type conveyor

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                          |                             |                      |
| 110380                                    | Transfer material by means of a metal-type conveyor |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                           | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-ENG-0-SGB MM                          | Regular   | Level 2                     | 4                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the transfer of material.

##### **SPECIFIC OUTCOME 2**

Prepare to transfer material.

##### **SPECIFIC OUTCOME 3**

Transfer material.

##### **SPECIFIC OUTCOME 4**

Complete duties pertaining to the material transfer process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

46

#### Transfer material by means of pneumatic conveying system

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                               |                             |                      |
| 110391                                    | Transfer material by means of pneumatic conveying system |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                                | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 2                     | 4                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the transfer of material.

##### **SPECIFIC OUTCOME 2**

Prepare to transfer material.

##### **SPECIFIC OUTCOME 3**

Transfer material.

##### **SPECIFIC OUTCOME 4**

Complete duties pertaining to the material transfer process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

47

#### De-aerate a solution by means of Crowe tower

|   |                    |  |               |
|---|--------------------|--|---------------|
| SAQA US ID                                |                    | UNIT STANDARD TITLE                          |               |
| 110443                                    |                    | De-aerate a solution by means of Crowe tower |               |
| SGB NAME                                  |                    | ABET BAND                                    | PROVIDER NAME |
| SGB Mining and Minerals                   |                    | Undefined                                    |               |
| FIELD DESCRIPTION                         |                    | SUBFIELD DESCRIPTION                         |               |
| Manufacturing, Engineering and Technology |                    | Fabrication and Extraction                   |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE | NQF LEVEL                                    | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular            | Level 3                                      | 12            |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the de-aeration of a solution.

##### **SPECIFIC OUTCOME 2**

Prepare to de-aerate a solution.

##### **SPECIFIC OUTCOME 3**

De-aerate a solution.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the de-aeration process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

48

#### Determine the calorific value of a substance

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                   |                             |                      |
| 110382                                    | Determine the calorific value of a substance |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                    | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular                                      | Level 3                     | 5                    |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to calorific value determinations.

##### **SPECIFIC OUTCOME 2**

Determine the calorific value of the substance.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

49

#### Determine the presence of bacteria in samples

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                    |                             |                      |
| 110431                                    | Determine the presence of bacteria in samples |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                     | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular                                       | Level 3                     | 3                    |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to bacteriological tests.

##### **SPECIFIC OUTCOME 2**

Determine the presence of bacteria in samples.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

50

**Draw and design basic jewellery concepts with reference to indigenous South African jewellery**

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
|---|---|----------------------------|---------------|
| 110399                                    | Draw and design basic jewellery concepts with reference to indigenous South African jewellery |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 3                    | 6             |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Interpret design requirements.

##### **SPECIFIC OUTCOME 2**

Communicate design ideas through basic design and drawing techniques showing an understanding.

##### **SPECIFIC OUTCOME 3**

Render the design to facilitate production and show an understanding of the use of colour.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

51

### Manufacture jewellery using traditional indigenous Southern African jewellery manufacturing techniques

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110386                                    | Manufacture jewellery using traditional indigenous Southern African jewellery manufacturing techniques |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 3                    | 15            |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate an understanding of the various traditional manufacturing techniques.

##### **SPECIFIC OUTCOME 2**

Demonstrate and understanding of traditional design practices.

##### **SPECIFIC OUTCOME 3**

Manufacture jewellery using a traditional jewellery manufacturing technique.

##### **SPECIFIC OUTCOME 4**

Demonstrate an understanding of basic business practice.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

52

#### Manufacture starter sheets for an electro-winning process

| SAQA US ID                                | UNIT STANDARD TITLE                                       |                            |               |
|---|---|----------------------------|---------------|
| 110429                                    | Manufacture starter sheets for an electro-winning process |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 3                    | 3             |

#### **Specific Outcomes:**

##### ***SPECIFIC OUTCOME 1***

Demonstrate knowledge relating to the manufacturing of starter sheets.

##### ***SPECIFIC OUTCOME 2***

Prepare to manufacture starter sheets.

##### ***SPECIFIC OUTCOME 3***

Manufacture starter sheets.

##### ***SPECIFIC OUTCOME 4***

Complete the duties pertaining to the manufacturing of starter sheets



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

53

#### Reline a mill by means of a hydraulic relining machine

| SAQA US ID                                | UNIT STANDARD TITLE                                    |                            |               |
|---|--|----------------------------|---------------|
| 110445                                    | Reline a mill by means of a hydraulic relining machine |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                                     | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 3                    | 8             |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to relining a mill.

##### **SPECIFIC OUTCOME 2**

Prepare to reline a mill.

##### **SPECIFIC OUTCOME 3**

Reline a mill.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the relining operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

54

#### Repair an electronic control system for an AC multi-speed motor

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |         |
|---|---|----------------------------|---------|
| 110384                                    | Repair an electronic control system for an AC multi-speed motor |                            |         |
| SGB NAME                                  | ABET BAND   | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined   |                            |         |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular   | Level 3                    | 6       |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Explain the requirements for faultfinding and repairs on an electronic control system for AC.

##### **SPECIFIC OUTCOME 2**

Prepare to repair the electronic control system.

##### **SPECIFIC OUTCOME 3**

Test, diagnose and locate the fault.

##### **SPECIFIC OUTCOME 4**

Repair the fault.

##### **SPECIFIC OUTCOME 5**

Test the system and perform reporting and housekeeping duties.



Established in terms of Act 58 of 1995

## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

55

Separate material by means of a dry high intensity magnetic separator

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
|---|---|----------------------------|---------------|
| 110424                                    | Separate material by means of a dry high intensity magnetic separator |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 3                    | 3             |

**Specific Outcomes:****SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the separation process.

**SPECIFIC OUTCOME 2**

Prepare to separate material.

**SPECIFIC OUTCOME 3**

Separate material.

**SPECIFIC OUTCOME 4**

Complete the duties pertaining to the separation process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

56

#### Separate material by means of an electrostatic separator

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                               |                             |                      |
| 110418                                    | Separate material by means of an electrostatic separator |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                                | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular  | Level 3                     | 3                    |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the separation process.

##### **SPECIFIC OUTCOME 2**

Prepare to separate material.

##### **SPECIFIC OUTCOME 3**

Separate material.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the separation process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

57

#### Transfer a gas by means of a gas transfer pump

| SAQA US ID                                | UNIT STANDARD TITLE                            |                            |         |
|---|--|----------------------------|---------|
| 110400                                    | Transfer a gas by means of a gas transfer pump |                            |         |
| SGB NAME                                  | ABET BAND                                      | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined                                      |                            |         |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                             | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular  | Level 3                    | 6       |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the transferring of a gas.

##### **SPECIFIC OUTCOME 2**

Prepare to transfer gas.

##### **SPECIFIC OUTCOME 3**

Transfer gas.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the gas transfer process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

58

#### Commission a catalytic converter in a sulphuric acid plant

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110419                                    | Commission a catalytic converter in a sulphuric acid plant |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 4                    | 13            |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the commissioning of a catalytic converter.

##### **SPECIFIC OUTCOME 2**

Demonstrate knowledge relating to the operation of a catalytic converter.

##### **SPECIFIC OUTCOME 3**

Commission a catalytic converter.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the commissioning of a catalytic converter.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

59

#### Commission a fluidized bed roaster

|   |                                    |                             |                      |
|---|------------------------------------|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>         |                             |                      |
| 110462                                    | Commission a fluidized bed roaster |                             |                      |
| <b>SGB NAME</b>                           |                                    | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |                                    | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |                                    | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |                                    | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>          | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular                            | Level 4                     | 13                   |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the commissioning of a fluidized bed roaster.

##### **SPECIFIC OUTCOME 2**

Demonstrate knowledge relating to the operation of a fluidized bed roaster.

##### **SPECIFIC OUTCOME 3**

Commission a fluidized bed roaster.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the commissioning of a fluidized bed roaster.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

60

#### Control a backfill production process

|   |                                       |                             |                      |
|---|---------------------------------------|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>            |                             |                      |
| 110405                                    | Control a backfill production process |                             |                      |
| <b>SGB NAME</b>                           |                                       | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |                                       | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |                                       | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |                                       | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>             | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular                               | Level 4                     | 15                   |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the controlling of a backfill production process.

##### **SPECIFIC OUTCOME 2**

Demonstrate knowledge relating to the operation of the backfill production process.

##### **SPECIFIC OUTCOME 3**

Control a backfill production process.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the controlling of a backfill production process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

61

#### Control a gold smelting operation in a metallurgical plant

|   |  |                            |               |
|---|--|----------------------------|---------------|
| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
| 110398                                    | Control a gold smelting operation in a metallurgical plant |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 4                    | 13            |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the controlling of a gold smelting operation.

##### **SPECIFIC OUTCOME 2**

Demonstrate knowledge relating to the gold smelting operation.

##### **SPECIFIC OUTCOME 3**

Control a gold smelting operation.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the controlling of a gold smelting operation.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

62

#### Control a Platinum Group Metals Sponge production process in a metallurgical plant

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110374                                    | Control a Platinum Group Metals Sponge production process in a metallurgical plant |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 4                    | 22            |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the controlling of a pgm sponge production process.

##### **SPECIFIC OUTCOME 2**

Demonstrate knowledge relating to the pgm sponge production process.

##### **SPECIFIC OUTCOME 3**

Control a PGM sponge production process.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the controlling of a PGM sponge production process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

63

#### Control pure platinum group metals receiving and despatch operations in a Platinum metals refinery

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |         |
|---|--|----------------------------|---------|
| 110453                                    | Control pure platinum group metals receiving and despatch operations in a Platinum metals refinery |                            |         |
| SGB NAME                                  | ABET BAND  | PROVIDER NAME              |         |
| SGB Mining and Minerals                   | Undefined  |                            |         |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |         |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |         |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS |
| MET-FBE-0-SGB MM                          | Regular  | Level 4                    | 10      |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the control of PGM receiving and despatch process.

##### **SPECIFIC OUTCOME 2**

Demonstrate knowledge relating to the PGM receiving and despatch process.

##### **SPECIFIC OUTCOME 3**

Control a PGM receiving and despatch process.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the PGM receiving and despatch process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

64

**Determine the composition of a substance by Gas Chromatography [GC]**

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>  |                             |                      |
| 110378                                    | Determine the composition of a substance by Gas Chromatography [GC] |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>   | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 4                     | 13                   |

### Specific Outcomes:

#### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to Gas Chromatography.

#### **SPECIFIC OUTCOME 2**

Perform the Gas Chromatographic determination.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

65

#### Generate steam by means of a coal-burning boiler

| SAQA US ID                                | UNIT STANDARD TITLE                              |                            |               |
|---|--|----------------------------|---------------|
| 110420                                    | Generate steam by means of a coal-burning boiler |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE                               | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 4                    | 18            |

#### **Specific Outcomes:**

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the generation of steam.

##### **SPECIFIC OUTCOME 2**

Prepare to generate steam.

##### **SPECIFIC OUTCOME 3**

Generate steam.

##### **SPECIFIC OUTCOME 4**

Complete the duties pertaining to the steam generation process.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

66

**Maintain stock levels of equipment, reagents and consumables required by the laboratory**

| SAQA US ID                                | UNIT STANDARD TITLE   |                            |               |
|---|---|----------------------------|---------------|
| 110421                                    | Maintain stock levels of equipment, reagents and consumables required by the laboratory |                            |               |
| SGB NAME                                  |   | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |   | Undefined                  |               |
| FIELD DESCRIPTION                         |   | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE  | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular   | Level 4                    | 12            |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the maintenance of stock levels.

#### **SPECIFIC OUTCOME 2**

Maintain required levels of stock.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

67

**Quantify analyte concentrations in prepared samples by high performance liquid chromatography [HPLC]**

| SAQA US ID                                | UNIT STANDARD TITLE  |                            |               |
|---|--|----------------------------|---------------|
| 110388                                    | Quantify analyte concentrations in prepared samples by high performance liquid chromatography [HPLC] |                            |               |
| SGB NAME                                  |  | ABET BAND                  | PROVIDER NAME |
| SGB Mining and Minerals                   |  | Undefined                  |               |
| FIELD DESCRIPTION                         |  | SUBFIELD DESCRIPTION       |               |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction |               |
| UNIT STANDARD CODE                        | UNIT STANDARD TYPE   | NQF LEVEL                  | CREDITS       |
| MET-FBE-0-SGB MM                          | Regular  | Level 4                    | 13            |

### **Specific Outcomes:**

#### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to High Performance Liquid Chromatography.

#### **SPECIFIC OUTCOME 2**

Quantify analyte concentrations in prepared samples by High Performance Liquid Chromatography.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

68

#### Demonstrate knowledge required to effectively monitor water quality

|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>  |                             |                      |
| 110425                                    | Demonstrate knowledge required to effectively monitor water quality |                             |                      |
| <b>SGB NAME</b>                           |   | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |   | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |   | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |   | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>   | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular   | Level 5                     | 4                    |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to water sampling.

##### **SPECIFIC OUTCOME 2**

Demonstrate knowledge related to the water cycle in general.

##### **SPECIFIC OUTCOME 3**

Demonstrate knowledge related to water pollution.

##### **SPECIFIC OUTCOME 4**

Demonstrate knowledge related to the analysis of water samples.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

69

#### Monitor the quality system in the laboratory

|   |  |                             |                      |
|---|--|-----------------------------|----------------------|
| <b>SAQA US ID</b>                         | <b>UNIT STANDARD TITLE</b>                   |                             |                      |
| 110464                                    | Monitor the quality system in the laboratory |                             |                      |
| <b>SGB NAME</b>                           |  | <b>ABET BAND</b>            | <b>PROVIDER NAME</b> |
| SGB Mining and Minerals                   |  | Undefined                   |                      |
| <b>FIELD DESCRIPTION</b>                  |  | <b>SUBFIELD DESCRIPTION</b> |                      |
| Manufacturing, Engineering and Technology |  | Fabrication and Extraction  |                      |
| <b>UNIT STANDARD CODE</b>                 | <b>UNIT STANDARD TYPE</b>                    | <b>NQF LEVEL</b>            | <b>CREDITS</b>       |
| MET-FBE-0-SGB MM                          | Regular                                      | Level 5                     | 8                    |

#### Specific Outcomes:

##### **SPECIFIC OUTCOME 1**

Demonstrate knowledge relating to the quality system in a testing laboratory.

##### **SPECIFIC OUTCOME 2**

Monitor the quality system in the laboratory.

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