

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. 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

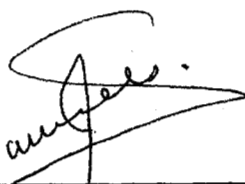
Private Bag X06

Waterkloof

0145

or faxed to 012 – 431 5144

e-mail: mmphuthing@saga.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.



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

SAQA US ID	UNIT STANDARD TITLE		
110390	Carry out a detailed inspection on a self-propelled battery powered mobile 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	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

SAQA US ID	UNIT STANDARD TITLE		
110439	Carry out a detailed inspection on a shaft communication 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	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

SAQA US ID	UNIT STANDARD TITLE		
110415	Carry out a detailed inspection on increased safety apparatus		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110404	Carry out a detailed inspection on intrinsically safe apparatus and circuits		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110410	Clarify a solution by means of a hopper 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:

14

Clarify a solution by means of a sand clarifier

SAQA US ID	UNIT STANDARD TITLE		
110411	Clarify a solution by means of a sand 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 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

SAQA US ID	UNIT STANDARD TITLE		
110433	Connect an industrial plug rated higher than 16 Ampere		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110409	Create jewellery utilising non-precious materials		
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**

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

SAQA US ID	UNIT STANDARD TITLE		
110413	Determine sulphur dioxide gas concentration by means of the Reicher test		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110376	Identify and maintain the basic 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	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

SAQA US ID	UNIT STANDARD TITLE		
110414	Incorporate cold enamelling techniques into jewellery and related artefacts		
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**

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

SAQA US ID	UNIT STANDARD TITLE		
110394	Install an industrial socket outlet rated higher than 16 Ampere		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110385	Make up an organic reagent 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	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

SAQA US ID	UNIT STANDARD TITLE		
110396	Make up antifoam 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	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

SAQA US ID	UNIT STANDARD TITLE		
110402	Separate liquid from solids by means of a vacuum tank 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	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

SAQA US ID	UNIT STANDARD TITLE		
110444	Strip nickel from titanium starter sheets in 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 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

SAQA US ID	UNIT STANDARD TITLE		
110380	Transfer material by means of a metal-type conveyor		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110391	Transfer material by means of pneumatic conveying 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	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

SAQA US ID		UNIT STANDARD TITLE	
110382		Determine the calorific value of a substance	
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	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

SAQA US ID		UNIT STANDARD TITLE	
110431		Determine the presence of bacteria in samples	
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 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.



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

SAQA US ID	UNIT STANDARD TITLE		
110418	Separate material by means of an electrostatic 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:

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

SAQA US ID	UNIT STANDARD TITLE		
110462	Commission a fluidized bed roaster		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110405	Control a backfill production 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 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.



Established in terms of Act 58 of 1995

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]

SAQA US ID	UNIT STANDARD TITLE		
110378	Determine the composition of a substance by Gas Chromatography [GC]		
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 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 consumbles required by the laboratory

SAQA US ID	UNIT STANDARD TITLE		
110421	Maintain stock levels of equipment, reagents and consumbles 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

SAQA US ID	UNIT STANDARD TITLE		
110425	Demonstrate knowledge required to effectively monitor water quality		
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 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

SAQA US ID	UNIT STANDARD TITLE		
110464	Monitor the quality system in 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 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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