

No. 1207

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**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 standard. The unit standard can be accessed via the SAQA web-site at www.saqqa.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, Pretoria.

Comment on the unit standards should reach SAQA at the address *below and no later than 13 November 2004*. All correspondence should be marked **Standards Setting – SGB for Mining and Minerals** and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Replace a fluid drive coupling

SAQA US ID	UNIT STANDARD TITLE		
10734	Replace a fluid drive coupling		
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

Explain the factors critical to replacing fluid drive couplings.

SPECIFIC OUTCOME 2

Prepare to replace the fluid drive coupling.

SPECIFIC OUTCOME 3

Replace the Fluid Drive Coupling.

SPECIFIC OUTCOME 4

Test the Fluid Drive Coupling and Prepare for Operation and/or Production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Replace a taper sleeve bearing

SAQA US ID	UNIT STANDARD TITLE		
10735	Replace a taper sleeve bearing		
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 factors critical to replacing a taper sleeve bearing.

SPECIFIC OUTCOME 2

Prepare to replace the taper sleeve bearing.

SPECIFIC OUTCOME 3

Replace the taper sleeve bearing.

SPECIFIC OUTCOME 4

Test the taper sleeve bearing and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Replace a reduction gearbox

SAQA US ID	UNIT STANDARD TITLE		
10736	Replace a reduction gearbox		
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 factors critical to replacing a reduction gearbox.

SPECIFIC OUTCOME 2

Prepare to replace a reduction gearbox.

SPECIFIC OUTCOME 3

Replace a reduction gearbox.

SPECIFIC OUTCOME 4

Test the reduction gearbox and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Replace a single-stage centrifugal pump

SAQA US ID	UNIT STANDARD TITLE		
10737	Replace a single-stage centrifugal 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 2	2

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to replacing a single-stage centrifugal pump.

SPECIFIC OUTCOME 2

Prepare to replace a centrifugal pump.

SPECIFIC OUTCOME 3

Replace the single-stage centrifugal pump.

SPECIFIC OUTCOME 4

Test the single-stage centrifugal pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Overhaul a single-stage centrifugal pump

SAQA US ID	UNIT STANDARD TITLE		
10738	Overhaul a single-stage centrifugal 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

Explain the factors critical to overhauling a single-stage centrifugal pump.

SPECIFIC OUTCOME 2

Prepare to overhaul a single-stage centrifugal pump.

SPECIFIC OUTCOME 3

Overhaul a single-stage centrifugal pump.

SPECIFIC OUTCOME 4

Test the single-stage centrifugal pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Repair a double drum scraper winch

SAQA US ID	UNIT STANDARD TITLE		
10739	Repair a double drum scraper winch		
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 factors critical to repairing a double-drum scraper winch.

SPECIFIC OUTCOME 2

Prepare to repair a double-drum scraper winch.

SPECIFIC OUTCOME 3

Repair the double-drum scraper winch.

SPECIFIC OUTCOME 4

Test the double-drum scraper winch and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Replace the transmission of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10742	Replace the transmission of a self-propelled 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 3	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to replacing the transmission of a self-propelled mobile machine.

SPECIFIC OUTCOME 2

Prepare to replace the transmission of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Replace the transmission of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Test the transmission of a self-propelled mobile machine and prepare for operation and / production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Replace a vertical spindle pump unit

SAQA US ID	UNIT STANDARD TITLE		
10743	Replace a vertical spindle pump unit		
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 factors critical to replacing a vertical spindle pump unit.

SPECIFIC OUTCOME 2

Prepare to replace the vertical spindle pump unit.

SPECIFIC OUTCOME 3

Replace the vertical spindle pump unit.

SPECIFIC OUTCOME 4

Test the vertical spindle pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Overhaul a portable pneumatic submersible centrifugal pump

SAQA US ID	UNIT STANDARD TITLE		
10744	Overhaul a portable pneumatic submersible centrifugal 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 2	2

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to overhauling a portable pneumatic submersible centrifugal pump.

SPECIFIC OUTCOME 2

Prepare to overhaul a portable pneumatic submersible centrifugal pump.

SPECIFIC OUTCOME 3

Overhaul the portable pneumatic submersible centrifugal pump.

SPECIFIC OUTCOME 4

Test the portable pneumatic submersible centrifugal pump and prepare for operation and / production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

Repair a single-stage centrifugal pump

SAQA US ID	UNIT STANDARD TITLE		
10746	Repair a single-stage centrifugal 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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to repairing a single-stage centrifugal pump.

SPECIFIC OUTCOME 2

Prepare to repair the single-stage centrifugal pump.

SPECIFIC OUTCOME 3

Repair the single-stage centrifugal pump.

SPECIFIC OUTCOME 4

Test the single-stage centrifugal pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Maintain the hydraulic system of a load haul dump machine

SAQA US ID	UNIT STANDARD TITLE		
10747	Maintain the hydraulic system of a load haul dump 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 1	2

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to maintaining the hydraulic system of a load haul dump machine.

SPECIFIC OUTCOME 2

Prepare to maintain the hydraulic system of a load haul dump machine.

SPECIFIC OUTCOME 3

Maintain the hydraulic system of a load haul dump machine.

SPECIFIC OUTCOME 4

Test the load haul dump machine and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

12

Replace the bucket assembly of a load haul dump machine

SAQA US ID	UNIT STANDARD TITLE		
10749	Replace the bucket assembly of a load haul dump 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	2

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to replacing a bucket assembly of a load haul dump machine.

SPECIFIC OUTCOME 2

Prepare to replace the bucket assembly of a load haul dump machine.

SPECIFIC OUTCOME 3

Replace the bucket assembly of a load haul dump machine.

SPECIFIC OUTCOME 4

Test the bucket assembly of a load haul dump machine and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

13

Repair the bucket assembly of a load haul dump machine

SAQA US ID	UNIT STANDARD TITLE		
10751	Repair the bucket assembly of a load haul dump 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 factors critical to repairing the bucket assembly of a load haul dump machine.

SPECIFIC OUTCOME 2

Prepare to repair the bucket assembly of a load haul dump machine.

SPECIFIC OUTCOME 3

Repair the bucket assembly of a load haul dump machine.

SPECIFIC OUTCOME 4

Test the bucket assembly of a load haul dump machine and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

14

Overhaul a reduction gearbox

SAQA US ID	UNIT STANDARD TITLE		
10752	Overhaul a reduction gearbox		
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 factors critical to overhauling reduction gearboxes.

SPECIFIC OUTCOME 2

Prepare to overhaul a reduction gearbox.

SPECIFIC OUTCOME 3

Overhaul the reduction gearbox.

SPECIFIC OUTCOME 4

Test the reduction gearbox and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

15

Overhaul a hydraulic cylinder

SAQA US ID	UNIT STANDARD TITLE		
10753	Overhaul a hydraulic cylinder		
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 factors critical to overhauling hydraulic cylinders.

SPECIFIC OUTCOME 2

Prepare to overhaul a hydraulic cylinder.

SPECIFIC OUTCOME 3

Overhaul the hydraulic cylinder.

SPECIFIC OUTCOME 4

Test the hydraulic cylinder and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

16

Replace the centre bearing assembly of an articulated vehicle

SAQA US ID	UNIT STANDARD TITLE		
10755	Replace the centre bearing assembly of an articulated vehicle		
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**

Explain the factors critical to replacing the centre bearing assembly of an articulated vehicle.

SPECIFIC OUTCOME 2

Prepare to replace the centre bearing assembly of an articulated vehicle.

SPECIFIC OUTCOME 3

Replace the centre bearing assembly of an articulated vehicle.

SPECIFIC OUTCOME 4

Test the centre bearing assembly of articulated vehicle and prepare for operation and / Production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

17

Repair the mechanical brake system of an underground locomotive

SAQA US ID	UNIT STANDARD TITLE		
10759	Repair the mechanical brake system of an underground locomotive		
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 factors critical to repairing the mechanical brake system of an underground locomotive.

SPECIFIC OUTCOME 2

Prepare to repair the mechanical brake system of an underground locomotive.

SPECIFIC OUTCOME 3

Repair the mechanical brake system of the underground locomotive.

SPECIFIC OUTCOME 4

Test the mechanical brake system of the underground locomotive and prepare for operation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

18

Join a conveyor belt by means of mechanical clips

SAQA US ID	UNIT STANDARD TITLE		
10760	Join a conveyor belt by means of mechanical clips		
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 factors critical to joining a conveyor belt.

SPECIFIC OUTCOME 2

Prepare to join a conveyor belt.

SPECIFIC OUTCOME 3

Join the conveyor belt.

SPECIFIC OUTCOME 4

Test the conveyor belt and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

19

Join mild steel by means of arc welding

SAQA US ID	UNIT STANDARD TITLE		
10762	Join mild steel by means of arc welding		
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	11

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to joining mild steel by means of arc welding.

SPECIFIC OUTCOME 2

Prepare to join mild steel by means of arc welding.

SPECIFIC OUTCOME 3

Join mild steel by means of arc welding.

SPECIFIC OUTCOME 4

Complete the process of arc welding mild steel, and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

20

Test and adjust the mechanical safety devices on a winding plant

SAQA US ID	UNIT STANDARD TITLE		
10763	Test and adjust the mechanical safety devices on a winding 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 3	6

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to testing and adjusting the mechanical safety devices.

SPECIFIC OUTCOME 2

Prepare to test and adjust the mechanical safety devices on a winding plant.

SPECIFIC OUTCOME 3

Test and adjust the mechanical safety devices on a winding plant.

SPECIFIC OUTCOME 4

Complete the testing and adjusting process of the mechanical safety devices.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

21

Repair a drum reclaimer

SAQA US ID	UNIT STANDARD TITLE		
10764	Repair a drum reclaimer		
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 factors critical to the repair of drum reclaimers.

SPECIFIC OUTCOME 2

Prepare to repair the drum reclaimer.

SPECIFIC OUTCOME 3

Repair the drum reclaimer.

SPECIFIC OUTCOME 4

Test the drum reclaimer and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

22

Repair a drum stacker

SAQA US ID	UNIT STANDARD TITLE		
10765	Repair a drum stacker		
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 factors critical to repairing drum stackers.

SPECIFIC OUTCOME 2

Prepare to repair the drum stacker.

SPECIFIC OUTCOME 3

Repair the drum stacker.

SPECIFIC OUTCOME 4

Test the drum stacker and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

23

Replace the diesel engine of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10766	Replace the diesel engine of a self-propelled 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 3	5

Specific Outcomes:

SPECIFIC OUTCOME 1

Demonstrate knowledge pertaining to diesel engines.

SPECIFIC OUTCOME 2

Prepare to replace a diesel engine.

SPECIFIC OUTCOME 3

Replace the diesel engine.

SPECIFIC OUTCOME 4

Test the diesel engine and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

24

Replace the centre portion of the differential assembly of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10767	Replace the centre portion of the differential assembly of a self-propelled 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	2

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical when replacing the centre portion of the differential assembly.

SPECIFIC OUTCOME 2

Prepare to replace the centre portion of the differential assembly.

SPECIFIC OUTCOME 3

Replace the centre portion of the differential assembly of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Test the centre portion of the differential assembly of a self-propelled mobile machine.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

25

Cut material by means of lancing

SAQA US ID	UNIT STANDARD TITLE		
10768	Cut material by means of lancing		
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 factors critical to cutting material by means of lancing.

SPECIFIC OUTCOME 2

Prepare to cut material by means of lancing.

SPECIFIC OUTCOME 3

Cut material by means of lancing.

SPECIFIC OUTCOME 4

Complete the cutting (lancing) process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

26

Overhaul the propeller shaft of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10769	Overhaul the propeller shaft of a self-propelled 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**

Demonstrate knowledge pertaining to propeller shafts.

SPECIFIC OUTCOME 2

Prepare to overhaul the propeller shaft of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Overhaul the propeller shaft of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Test the propeller shaft assembly and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

27

Replace a double drum scraper winch

SAQA US ID	UNIT STANDARD TITLE		
10770	Replace a double drum scraper winch		
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 factors critical to replacing a double drum scraper winch.

SPECIFIC OUTCOME 2

Prepare to replace a double drum scraper winch.

SPECIFIC OUTCOME 3

Replace a double drum scraper winch.

SPECIFIC OUTCOME 4

Test the double drum scraper winch and preparing for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

28

Replace the cutter-boom gearbox of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10771	Replace the cutter-boom gearbox of a continuous miner		
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 factors critical to replacing the cutter-boom gearbox of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to replace the cutter-boom gearbox.

SPECIFIC OUTCOME 3

Replace the cutter-boom gearbox.

SPECIFIC OUTCOME 4

Test the continuous miner cutter-boom gearbox and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

29

Repair the hydraulic braking system of a self-propelled machine

SAQA US ID	UNIT STANDARD TITLE		
10773	Repair the hydraulic braking system of a self-propelled 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	7

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to repairing the hydraulic braking system of a self-propelled machine.

SPECIFIC OUTCOME 2

Prepare to repair the hydraulic braking system of a self-propelled machine.

SPECIFIC OUTCOME 3

Repair the hydraulic braking system of a self-propelled machine.

SPECIFIC OUTCOME 4

Test the hydraulic braking system on a self-propelled machine and prepare for operation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

30

Replace the cutter head assembly of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10774	Replace the cutter head assembly of a continuous miner		
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 factors critical to replacing the cutter head assembly of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to replace the cutter head assembly of the continuous miner.

SPECIFIC OUTCOME 3

Replace the cutter head assembly of the continuous miner.

SPECIFIC OUTCOME 4

Test the cutter head assembly and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

31

Overhaul a gear type hydraulic motor

SAQA US ID	UNIT STANDARD TITLE		
10775	Overhaul a gear type hydraulic 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	5

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to overhauling gear-type hydraulic motors.

SPECIFIC OUTCOME 2

Prepare to overhaul a gear-type hydraulic motor.

SPECIFIC OUTCOME 3

Overhaul the gear-type hydraulic motor.

SPECIFIC OUTCOME 4

Test the gear-type hydraulic motor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

32

Overhaul a gear-type hydraulic pump

SAQA US ID	UNIT STANDARD TITLE		
10776	Overhaul a gear-type hydraulic 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	5

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to overhauling gear-type hydraulic pumps.

SPECIFIC OUTCOME 2

Prepare to overhaul the gear-type hydraulic pump.

SPECIFIC OUTCOME 3

Overhaul the gear-type hydraulic pump.

SPECIFIC OUTCOME 4

Test the gear-type hydraulic pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

33

Replace a multi-stage centrifugal pump

SAQA US ID	UNIT STANDARD TITLE		
10777	Replace a multi-stage centrifugal 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 2	2

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to replacing a multi-stage centrifugal pump.

SPECIFIC OUTCOME 2

Prepare to replace a multi-stage centrifugal pump.

SPECIFIC OUTCOME 3

Replace the multi-stage centrifugal pump.

SPECIFIC OUTCOME 4

Test the multi-stage centrifugal pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

34

Repair a multi-stage centrifugal pump

SAQA US ID	UNIT STANDARD TITLE		
10778	Repair a multi-stage centrifugal 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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to repairing a multi-stage centrifugal pump.

SPECIFIC OUTCOME 2

Prepare to repair the multi-stage centrifugal pump.

SPECIFIC OUTCOME 3

Repair the multi-stage centrifugal pump.

SPECIFIC OUTCOME 4

Test the multi-stage centrifugal pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

35

Overhaul of a multi-stage centrifugal pump

SAQA US ID	UNIT STANDARD TITLE		
10779	Overhaul of a multi-stage centrifugal 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

Explain the factors critical to overhauling multi-stage centrifugal pumps.

SPECIFIC OUTCOME 2

Prepare to overhaul a multi-stage centrifugal pump.

SPECIFIC OUTCOME 3

Overhaul the multi-stage centrifugal pump.

SPECIFIC OUTCOME 4

Complete the process of overhauling the multi-stage centrifugal pump and prepare for operation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

36

Cut mild steel by means of an Oxy-acetylene profile cutter

SAQA US ID	UNIT STANDARD TITLE		
10780	Cut mild steel by means of an Oxy-acetylene profile cutter		
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 factors critical to cutting mild steel by means of an Oxy-acetylene profile cutter.

SPECIFIC OUTCOME 2

Prepare to cut mild steel by means of an Oxy-acetylene profile cutter.

SPECIFIC OUTCOME 3

Cut mild steel by means of an Oxy-acetylene profile cutter.

SPECIFIC OUTCOME 4

Complete the mild steel cutting process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

37

Cut mild steel by means of an Oxy-acetylene straight-line cutter

SAQA US ID	UNIT STANDARD TITLE		
10781	Cut mild steel by means of an Oxy-acetylene straight-line cutter		
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 factors critical to cutting mild steel.

SPECIFIC OUTCOME 2

Prepare to cut mild steel by means of an Oxy-acetylene straight-line cutter.

SPECIFIC OUTCOME 3

Cut mild steel by means of an Oxy-acetylene straight-line cutter.

SPECIFIC OUTCOME 4

Complete the mild steel cutting process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

38

Adjust the valve clearances of an internal combustion engine

SAQA US ID	UNIT STANDARD TITLE		
10782	Adjust the valve clearances of an internal combustion engine		
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**

Explain the factors critical to adjusting the valve clearances of an internal combustion engine.

SPECIFIC OUTCOME 2

Prepare to adjust the valve clearances.

SPECIFIC OUTCOME 3

Adjust the valve clearances.

SPECIFIC OUTCOME 4

Test the internal combustion engine and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

39

Join of aluminium by means of arc welding

SAQA US ID	UNIT STANDARD TITLE		
10783	Join of aluminium by means of arc welding		
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

Explain the factors critical to joining aluminium by means of arc welding.

SPECIFIC OUTCOME 2

Prepare to join aluminium by means of arc welding.

SPECIFIC OUTCOME 3

Join aluminium by means of arc welding.

SPECIFIC OUTCOME 4

Complete the aluminium arc welding process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

40

Grind steel by means of a pedestal / bench grinding machine

SAQA US ID	UNIT STANDARD TITLE		
10784	Grind steel by means of a pedestal / bench grinding 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	2

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain The Factors Critical To Grinding Steel By Means Of A Pedestal / Bench Grinding Machine.

SPECIFIC OUTCOME 2

Prepare To Grind Steel By Means Of A Pedestal / Bench Grinding Machine.

SPECIFIC OUTCOME 3

Grind Steel By Means Of A Pedestal / bench Grinding Machine.

SPECIFIC OUTCOME 4

Complete The Grinding Process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

41

Weld aluminium by means of Oxy-acetylene equipment

SAQA US ID	UNIT STANDARD TITLE		
10785	Weld aluminium by means of Oxy-acetylene 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 3	4

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to welding aluminium by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 2

Prepare to weld aluminium by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 3

Weld aluminium by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 4

Complete the Oxy-acetylene welding process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

42

Cut screw threads by means of a thread-cutting machine

SAQA US ID	UNIT STANDARD TITLE		
10786	Cut screw threads by means of a thread-cutting 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	2

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to cutting screw threads by means of a thread-cutting machine.

SPECIFIC OUTCOME 2

Prepare to cut screw threads by means of a thread-cutting machine.

SPECIFIC OUTCOME 3

Cut screw threads by means of a thread-cutting machine.

SPECIFIC OUTCOME 4

Complete the screw thread cutting process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

43

Weld mild steel by means of Oxy-acetylene equipment

SAQA US ID	UNIT STANDARD TITLE		
10789	Weld mild steel by means of Oxy-acetylene 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 3	4

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to welding mild steel by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 2

Prepare to weld mild steel by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 3

Weld mild steel by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 4

Complete the Oxy-acetylene welding process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

44

Silver solder metals by means of Oxy-acetylene equipment

SAQA US ID	UNIT STANDARD TITLE		
10790	Silver solder metals by means of Oxy-acetylene 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 3	3

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to silver soldering metals by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 2

Prepare to silver-solder metals by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 3

Silver solder metals by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 4

Complete the silver soldering process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

45

Troubleshoot the hydraulic system of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10791	Troubleshoot the hydraulic system of a self-propelled 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 3	6

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to troubleshooting the hydraulic system.

SPECIFIC OUTCOME 2

Prepare to troubleshoot the hydraulic system.

SPECIFIC OUTCOME 3

Troubleshoot the hydraulic system.

SPECIFIC OUTCOME 4

Complete the troubleshooting process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

46

Repair the air-cooling system of an internal combustion engine

SAQA US ID	UNIT STANDARD TITLE		
10792	Repair the air-cooling system of an internal combustion engine		
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 factors critical to repairing the air cooling system of an internal combustion engine.

SPECIFIC OUTCOME 2

Prepare to repair the air cooling system of an internal combustion engine.

SPECIFIC OUTCOME 3

Repair the air cooling system of the internal combustion engine.

SPECIFIC OUTCOME 4

Test the air cooling system of the internal combustion engine and prepare for operation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

47

Repair the fuel system of a diesel engine

SAQA US ID	UNIT STANDARD TITLE		
10793	Repair the fuel system of a diesel engine		
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

Explain the factors critical to repairing the fuel system of a diesel engine.

SPECIFIC OUTCOME 2

Prepare to repair the fuel system.

SPECIFIC OUTCOME 3

Repair the fuel system.

SPECIFIC OUTCOME 4

Test the fuel system and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

48

Perform troubleshooting on the pneumatic system of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10794	Perform troubleshooting on the pneumatic system of a self-propelled 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 3	6

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to troubleshooting the pneumatic system.

SPECIFIC OUTCOME 2

Prepare to troubleshoot the pneumatic system of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Troubleshoot the pneumatic system of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Complete the troubleshooting processes and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

49

Replace the cutter drum assembly of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10795	Replace the cutter drum assembly of a continuous miner		
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 factors critical to replacing a cutter drum assembly of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to replace the cutter drum assembly of a continuous miner.

SPECIFIC OUTCOME 3

Replace the cutter drum assembly of a continuous miner.

SPECIFIC OUTCOME 4

Test the cutter drum assembly of a continuous miner and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

50

Repair the cutter drum assembly of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10796	Repair the cutter drum assembly of a continuous miner		
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 factors critical to repairing the cutter drum assembly of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to repair the cutter drum assembly of a continuous miner.

SPECIFIC OUTCOME 3

Repair the cutter drum assembly of the continuous miner.

SPECIFIC OUTCOME 4

Test the cutter drum assembly of a continuous miner and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

51

Overhaul the wheel-end final drive assembly of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10797	Overhaul the wheel-end final drive assembly of a self-propelled 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 3	6

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to overhauling the wheel-end final drive assembly.

SPECIFIC OUTCOME 2

Prepare to overhaul the wheel-end final drive assembly of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Overhaul the wheel-end final drive assembly of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Test the wheel-end final drive assembly and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

52

Replace the cutter boom assembly of a continuous miner.

SAQA US ID	UNIT STANDARD TITLE		
10798	Replace the cutter boom assembly of a continuous miner.		
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 factors critical to replacing the cutter boom assembly of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to replace the cutter boom assembly of a continuous miner.

SPECIFIC OUTCOME 3

Replace the cutter boom assembly of a continuous miner.

SPECIFIC OUTCOME 4

Test the cutter boom assembly of the continuous miner and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

53

Replace the wheel-end final drive assembly of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10799	Replace the wheel-end final drive assembly of a self-propelled 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	4

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to replacing the wheel-end final drive assembly.

SPECIFIC OUTCOME 2

Prepare to replace the wheel-end final drive assembly of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Replace the wheel-end final drive assembly.

SPECIFIC OUTCOME 4

Test the wheel-end final drive assembly and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

54

Replace the final-drive axle assembly of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10800	Replace the final-drive axle assembly of a self-propelled 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	4

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to replacing the final-drive axle assembly.

SPECIFIC OUTCOME 2

Prepare to replace the final-drive axle assembly.

SPECIFIC OUTCOME 3

Replace the final-drive axle assembly.

SPECIFIC OUTCOME 4

Test the final-drive axle assembly and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

55

Repair the cutter boom assembly of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10801	Repair the cutter boom assembly of a continuous miner		
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 factors critical to repairing the cutter boom assembly of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to repair the cutter boom assembly of a continuous miner.

SPECIFIC OUTCOME 3

Repair the cutter boom assembly of a continuous miner.

SPECIFIC OUTCOME 4

Test the cutter boom assembly of the continuous miner and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

56

Overhaul the cutter gearbox of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10802	Overhaul the cutter gearbox of a continuous miner		
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 factors critical to overhauling the cutter gearbox of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to overhaul the cutter gearbox of a continuous miner.

SPECIFIC OUTCOME 3

Overhaul the cutter gearbox of a continuous miner.

SPECIFIC OUTCOME 4

Test the cutter gearbox of the continuous miner and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

57

Replace a flange-mounted valve

SAQA US ID	UNIT STANDARD TITLE		
10803	Replace a flange-mounted valve		
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**

Explain the factors critical to replacing a flange-mounted valve.

SPECIFIC OUTCOME 2

Prepare to replace a flange-mounted valve.

SPECIFIC OUTCOME 3

Replace the flange-mounted valve.

SPECIFIC OUTCOME 4

Test the flange-mounted valve and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

58

Replace the cutter clutch assembly of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10804	Replace the cutter clutch assembly of a continuous miner		
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 factors critical to replacing the cutter clutch assembly of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to replace the cutter clutch assembly of a continuous miner.

SPECIFIC OUTCOME 3

Replace the cutter clutch assembly of a continuous miner.

SPECIFIC OUTCOME 4

Test the cutter clutch assembly of the continuous miner and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

59

Replace a flanged pipe section

SAQA US ID	UNIT STANDARD TITLE		
10805	Replace a flanged pipe section		
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 factors critical to replacing flanged pipe sections in a mining context.

SPECIFIC OUTCOME 2

Prepare to replace a flanged pipe section.

SPECIFIC OUTCOME 3

Replace the flanged pipe section.

SPECIFIC OUTCOME 4

Test the flanged pipe section and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

60

Overhaul the cutter clutch assembly of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10806	Overhaul the cutter clutch assembly of a continuous miner		
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 factors critical to overhauling the cutter clutch assembly of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to overhaul the cutter clutch assembly.

SPECIFIC OUTCOME 3

Overhaul the cutter clutch assembly.

SPECIFIC OUTCOME 4

Test the cutter clutch assembly and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

61

Overhaul the gathering head gearbox assembly of a continuous miner

SAQA US ID	UNIT STANDARD TITLE		
10807	Overhaul the gathering head gearbox assembly of a continuous miner		
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 factors critical to overhauling gathering head gearbox of a continuous miner.

SPECIFIC OUTCOME 2

Prepare to overhaul the gathering head gearbox.

SPECIFIC OUTCOME 3

Overhaul the gathering head gearbox.

SPECIFIC OUTCOME 4

Test the gathering head gearbox and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

62

Braze metals by means of Oxy-acetylene equipment

SAQA US ID	UNIT STANDARD TITLE		
10808	Braze metals by means of Oxy-acetylene 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 3	4

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to brazing metals by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 2

Prepare to braze metals by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 3

Braze metals by means of Oxy-acetylene equipment.

SPECIFIC OUTCOME 4

Complete the brazing processes and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

63

Replace the components of an air-driven track bound mechanical loader

SAQA US ID	UNIT STANDARD TITLE		
10809	Replace the components of an air-driven track bound mechanical loader		
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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to replacing the components of an air-driven track bound.

SPECIFIC OUTCOME 2

Prepare to replace the components.

SPECIFIC OUTCOME 3

Replace the components.

SPECIFIC OUTCOME 4

Test the air-driven track bound mechanical loader and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

64

Join metals by means of Tungsten Inert Gas (TIG) welding

SAQA US ID	UNIT STANDARD TITLE		
10810	Join metals by means of Tungsten Inert Gas (TIG) welding		
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 factors critical to joining metals by means of TIG welding.

SPECIFIC OUTCOME 2

Prepare to join metals by means of TIG welding.

SPECIFIC OUTCOME 3

Join metals by means of TIG welding.

SPECIFIC OUTCOME 4

Complete the TIG welding process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

65

Repair a single-speed reduction gearbox

SAQA US ID	UNIT STANDARD TITLE		
9811	Repair a single-speed reduction gearbox		
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 factors critical to replacing a single-speed reduction gearbox.

SPECIFIC OUTCOME 2

Prepare to repair a single speed reduction gearbox.

SPECIFIC OUTCOME 3

Repair the single-speed reduction gearbox.

SPECIFIC OUTCOME 4

Test the single-speed reduction gearbox and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

66

Gouge metals by means of an arc-welding machine

SAQA US ID	UNIT STANDARD TITLE		
10812	Gouge metals by means of an arc-welding 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	2

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to gouging metals by means of an arc-welding machine.

SPECIFIC OUTCOME 2

Prepare to gouge metals by means of an arc-welding machine.

SPECIFIC OUTCOME 3

Gouge metals by means of an arc-welding machine.

SPECIFIC OUTCOME 4

Complete the process of gouging metal by means of an arc-welding machine.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

67

Repair the upper gearbox of an air-driven track bound mechanical loader

SAQA US ID	UNIT STANDARD TITLE		
10813	Repair the upper gearbox of an air-driven track bound mechanical loader		
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 factors critical to repairing the upper gearbox of an air-driven track bound.

SPECIFIC OUTCOME 2

Prepare to repair the upper gearbox.

SPECIFIC OUTCOME 3

Repair the upper gearbox.

SPECIFIC OUTCOME 4

Test the air-driven track bound mechanical loader and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

68

Repair the lower gearbox of an air-driven track bound mechanical loader

SAQA US ID	UNIT STANDARD TITLE		
10814	Repair the lower gearbox of an air-driven track bound mechanical loader		
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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to repairing the lower gearbox of an air-driven track bound.

SPECIFIC OUTCOME 2

Prepare to repair the lower gearbox.

SPECIFIC OUTCOME 3

Repair the lower gearbox.

SPECIFIC OUTCOME 4

Test the air-driven track bound mechanical loader and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

69

Maintain an air compressor

SAQA US ID	UNIT STANDARD TITLE		
10815	Maintain an air compressor		
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 factors critical to maintaining an air compressor.

SPECIFIC OUTCOME 2

Prepare to maintain the air compressor.

SPECIFIC OUTCOME 3

Maintain the air compressor.

SPECIFIC OUTCOME 4

Test the air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

70

Repair the motor of an air-driven mechanical loader

SAQA US ID	UNIT STANDARD TITLE		
10816	Repair the motor of an air-driven mechanical loader		
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 factors critical to repairing the motor of an air-driven mechanical loader.

SPECIFIC OUTCOME 2

Prepare to repair the motor.

SPECIFIC OUTCOME 3

Repair the motor.

SPECIFIC OUTCOME 4

Test the air-driven mechanical loader prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

71

Overhaul a vane-type hydraulic motor

SAQA US ID	UNIT STANDARD TITLE		
10817	Overhaul a vane-type hydraulic 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 factors critical to maintaining an air compressor.

SPECIFIC OUTCOME 2

Prepare to maintain the air compressor.

SPECIFIC OUTCOME 3

Maintain the air compressor.

SPECIFIC OUTCOME 4

Test the air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

72

Overhaul a piston-type hydraulic motor

SAQA US ID	UNIT STANDARD TITLE		
10819	Overhaul a piston-type hydraulic 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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to overhauling a vane-type hydraulic motor.

SPECIFIC OUTCOME 2

Prepare to overhaul a vane-type hydraulic motor.

SPECIFIC OUTCOME 3

Overhaul the vane-type hydraulic motor.

SPECIFIC OUTCOME 4

Test the vane-type hydraulic motor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

73

Repair the controls and pipes of an air-driven mechanical loader

SAQA US ID	UNIT STANDARD TITLE		
10820	Repair the controls and pipes of an air-driven mechanical loader		
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 factors critical to repairing the controls and pipes of an air-driven mechanical loader.

SPECIFIC OUTCOME 2

Prepare to repair the controls and pipes.

SPECIFIC OUTCOME 3

Repair the controls and pipes.

SPECIFIC OUTCOME 4

Test the air-driven mechanical loader and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

74

Overhaul a vane-type hydraulic pump

SAQA US ID	UNIT STANDARD TITLE		
10821	Overhaul a vane-type hydraulic 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**

Explain the factors critical to overhauling a piston-type hydraulic motor.

SPECIFIC OUTCOME 2

Prepare to overhaul a piston-type hydraulic motor.

SPECIFIC OUTCOME 3

Overhaul the piston-type hydraulic motor.

SPECIFIC OUTCOME 4

Test the piston-type hydraulic motor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

75

Replace a tyre-type drive coupling

SAQA US ID	UNIT STANDARD TITLE		
10822	Replace a tyre-type drive coupling		
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 factors critical to replacing tyre-type drive couplings.

SPECIFIC OUTCOME 2

Prepare to replace a tyre-type drive coupling.

SPECIFIC OUTCOME 3

Replace a tyre-type drive coupling.

SPECIFIC OUTCOME 4

Test the tyre-type drive coupling and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

76

Replace a pin and bush type drive coupling

SAQA US ID	UNIT STANDARD TITLE		
10823	Replace a pin and bush type drive coupling		
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 factors critical to replacing a pin and bush type drive coupling.

SPECIFIC OUTCOME 2

Prepare to replace a pin and bush type drive coupling.

SPECIFIC OUTCOME 3

Replace the pin and bush type drive coupling.

SPECIFIC OUTCOME 4

Test the pin and bush type drive coupling and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

77

Bend a pipe by means of a hydraulic pipe bender

SAQA US ID	UNIT STANDARD TITLE		
10824	Bend a pipe by means of a hydraulic pipe bender		
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 factors critical to bending pipes by means of a hydraulic pipe bender.

SPECIFIC OUTCOME 2

Prepare to bend a pipe by means of a hydraulic pipe bender.

SPECIFIC OUTCOME 3

Bend a pipe by means of a hydraulic pipe bender.

SPECIFIC OUTCOME 4

Complete the pipe bending process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

78

Overhaul a piston-type hydraulic pump

SAQA US ID	UNIT STANDARD TITLE		
10825	Overhaul a piston-type hydraulic 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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to overhauling a piston-type hydraulic motor.

SPECIFIC OUTCOME 2

Prepare to overhaul a piston-type hydraulic motor.

SPECIFIC OUTCOME 3

Overhaul the piston-type hydraulic motor.

SPECIFIC OUTCOME 4

Test the piston-type hydraulic motor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

79

Replace the transfer gearbox of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10826	Replace the transfer gearbox of a self-propelled 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	2

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to replacing the transfer gearbox of a self-propelled mobile machine.

SPECIFIC OUTCOME 2

Prepare to replace the transfer gearbox of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Replace the transfer gearbox of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Test the transfer gearbox and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

80

Repair a piston-type air compressor

SAQA US ID	UNIT STANDARD TITLE		
10827	Repair a piston-type air compressor		
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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to repairing a piston-type air compressor.

SPECIFIC OUTCOME 2

Prepare to repair a piston-type air compressor.

SPECIFIC OUTCOME 3

Repair the piston-type air compressor.

SPECIFIC OUTCOME 4

Test the piston-type air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

81

Replace the manual transmission of a vehicle

SAQA US ID	UNIT STANDARD TITLE		
10828	Replace the manual transmission of a vehicle		
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 factors critical to replacing the manual transmission of a vehicle.

SPECIFIC OUTCOME 2

Prepare to replace the manual transmission of a vehicle.

SPECIFIC OUTCOME 3

Replace the manual transmission of a vehicle.

SPECIFIC OUTCOME 4

Test the manual transmission of the vehicle and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

82

Repair the transfer gearbox of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10829	Repair the transfer gearbox of a self-propelled 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 factors critical to finding the fault and repairing the transfer gearbox.

SPECIFIC OUTCOME 2

Prepare to repair the transfer gearbox.

SPECIFIC OUTCOME 3

Repair the transfer gearbox.

SPECIFIC OUTCOME 4

Test the transfer gearbox of a self-propelled mobile machine and prepare for operation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

83

Overhaul a transfer gearbox of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10830	Overhaul a transfer gearbox of a self-propelled 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 factors critical to overhauling the transfer gearbox of a self-propelled mobile machine.

SPECIFIC OUTCOME 2

Prepare to overhaul the transfer gearbox.

SPECIFIC OUTCOME 3

Overhaul the transfer gearbox.

SPECIFIC OUTCOME 4

Test the transfer gearbox and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

84

Repair a vane-type air compressor

SAQA US ID	UNIT STANDARD TITLE		
10831	Repair a vane-type air compressor		
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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to repairing a vane-type air compressor.

SPECIFIC OUTCOME 2

Prepare to repair a vane-type air compressor.

SPECIFIC OUTCOME 3

Repair the vane-type air compressor.

SPECIFIC OUTCOME 4

Test the vane-type air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

85

Replace a direct mount bearing

SAQA US ID	UNIT STANDARD TITLE		
10832	Replace a direct mount bearing		
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 factors critical to replacing a direct mount bearing.

SPECIFIC OUTCOME 2

Prepare to replace a direct mount bearing.

SPECIFIC OUTCOME 3

Replace a direct mount bearing.

SPECIFIC OUTCOME 4

Test the direct mount bearing and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

86

Repair a monorope winch

SAQA US ID	UNIT STANDARD TITLE		
10833	Repair a monorope winch		
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 factors critical to repairing a monorope winch.

SPECIFIC OUTCOME 2

Prepare to repair a monorope winch.

SPECIFIC OUTCOME 3

Repair a monorope winch.

SPECIFIC OUTCOME 4

Test the monorope winch and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

87

Repair a screw-type air compressor

SAQA US ID	UNIT STANDARD TITLE		
10834	Repair a screw-type air compressor		
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	7

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to repairing a screw-type air compressor.

SPECIFIC OUTCOME 2

Prepare to repair a screw-type air compressor.

SPECIFIC OUTCOME 3

Repair the screw-type air compressor.

SPECIFIC OUTCOME 4

Test the screw-type air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

88

Replace a monorope winch

SAQA US ID	UNIT STANDARD TITLE		
10835	Replace a monorope winch		
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 factors critical to replacing a monorope winch.

SPECIFIC OUTCOME 2

Prepare to replace the monorope winch.

SPECIFIC OUTCOME 3

Replace a monorope winch.

SPECIFIC OUTCOME 4

Test the monorope winch and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

89

Overhaul a piston-type air compressor

SAQA US ID	UNIT STANDARD TITLE		
10836	Overhaul a piston-type air compressor		
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	7

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to overhauling a piston-type air compressor.

SPECIFIC OUTCOME 2

Prepare to overhaul a piston-type air compressor.

SPECIFIC OUTCOME 3

Overhaul the piston-type air compressor.

SPECIFIC OUTCOME 4

Test the piston-type air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

90

Replace hydraulic pipes and fittings

SAQA US ID	UNIT STANDARD TITLE		
10837	Replace hydraulic pipes and fittings		
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 factors critical to replacing hydraulic pipes and fittings.

SPECIFIC OUTCOME 2

Prepare to replace hydraulic pipes and fittings.

SPECIFIC OUTCOME 3

Replace hydraulic pipes and fittings.

SPECIFIC OUTCOME 4

Test the hydraulic system and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

91

Overhaul a vane-type air compressor

SAQA US ID	UNIT STANDARD TITLE		
10838	Overhaul a vane-type air compressor		
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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to overhauling a vane-type air compressor.

SPECIFIC OUTCOME 2

Prepare to overhaul a vane-type air compressor.

SPECIFIC OUTCOME 3

Overhaul the vane-type air compressor.

SPECIFIC OUTCOME 4

Test the vane-type air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

92

Repair the power shift transmission of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10839	Repair the power shift transmission of a self-propelled 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	5

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to repairing the power shift transmission.

SPECIFIC OUTCOME 2

Prepare to repair the power shift transmission of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Repair the power shift transmission of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Test the power shift transmission and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

93

Overhaul a screw-type air compressor

SAQA US ID	UNIT STANDARD TITLE		
10840	Overhaul a screw-type air compressor		
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	7

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to overhauling a screw-type air compressor.

SPECIFIC OUTCOME 2

Prepare to overhaul a screw-type air compressor.

SPECIFIC OUTCOME 3

Overhaul the screw-type air compressor.

SPECIFIC OUTCOME 4

Test the screw-type air compressor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

94

Repair the constant mesh transmission of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10841	Repair the constant mesh transmission of a self-propelled 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	5

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to repairing the constant mesh transmissions.

SPECIFIC OUTCOME 2

Prepare to repair the constant mesh transmission of a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Repair the constant mesh transmission of a self-propelled mobile machine.

SPECIFIC OUTCOME 4

Test the constant mesh transmission and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

95

Join cast iron by means of arc welding

SAQA US ID	UNIT STANDARD TITLE		
10842	Join cast iron by means of arc welding		
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 factors critical to joining cast iron by means of arc welding.

SPECIFIC OUTCOME 2

Prepare to join cast iron by means of arc welding.

SPECIFIC OUTCOME 3

Join cast iron by means of arc welding.

SPECIFIC OUTCOME 4

Complete the arc welding process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

96

Perform maintenance on a self-propelled mobile hydraulic drill rig

SAQA US ID	UNIT STANDARD TITLE		
10843	Perform maintenance on a self-propelled mobile hydraulic drill rig		
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**

Explain factors critical to performing maintenance on a self-propelled mobile hydraulic drill rig.

SPECIFIC OUTCOME 2

Prepare to perform maintenance on a self-propelled mobile hydraulic drill rig.

SPECIFIC OUTCOME 3

Perform maintenance on a self-propelled mobile hydraulic drill rig.

SPECIFIC OUTCOME 4

Test the self-propelled mobile hydraulic drill rig and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

97

Repair a hydraulic accumulator

SAQA US ID	UNIT STANDARD TITLE		
10844	Repair a hydraulic accumulator		
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 factors critical to repairing a hydraulic accumulator.

SPECIFIC OUTCOME 2

Prepare to repair a hydraulic accumulator.

SPECIFIC OUTCOME 3

Repair the hydraulic accumulator.

SPECIFIC OUTCOME 4

Test the hydraulic accumulator and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

98

Bend steel by means of a bending machine

SAQA US ID	UNIT STANDARD TITLE		
10845	Bend steel by means of a bending 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 factors critical to bending steel by means of a bending machine.

SPECIFIC OUTCOME 2

Prepare to bend steel by means of a bending machine.

SPECIFIC OUTCOME 3

Bend steel by means of a bending machine.

SPECIFIC OUTCOME 4

Complete the bending process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

99

Replace the hydraulic wheel motor of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10846	Replace the hydraulic wheel motor of a self-propelled 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	4

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to replacing a hydraulic wheel motor.

SPECIFIC OUTCOME 2

Prepare to replace the hydraulic wheel motor.

SPECIFIC OUTCOME 3

Replace the hydraulic wheel motor.

SPECIFIC OUTCOME 4

Test the hydraulic wheel motor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

100

Cut material by means of a hydraulic or electric guillotine

SAQA US ID	UNIT STANDARD TITLE		
10847	Cut material by means of a hydraulic or electric guillotine		
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 factors critical to cutting material by means of a hydraulic or electric guillotine.

SPECIFIC OUTCOME 2

Prepare to cut material by means of a hydraulic or electric guillotine.

SPECIFIC OUTCOME 3

Cut material by means of hydraulic or electric guillotine.

SPECIFIC OUTCOME 4

Complete the cutting process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

101

Replace liners in a transfer chute

SAQA US ID	UNIT STANDARD TITLE		
10848	Replace liners in a transfer chute		
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 factors critical to replacing liners in a transfer chute.

SPECIFIC OUTCOME 2

Prepare to replace liners in a transfer chute.

SPECIFIC OUTCOME 3

Replace liners in a transfer chute.

SPECIFIC OUTCOME 4

Complete the liner replacement and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

102

Punch and shear material by means of a punching and shearing machine

SAQA US ID	UNIT STANDARD TITLE		
10849	Punch and shear material by means of a punching and shearing 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 factors critical to punching and shearing material.

SPECIFIC OUTCOME 2

Prepare to punch and shear material.

SPECIFIC OUTCOME 3

Punch and shear the material.

SPECIFIC OUTCOME 4

Complete the punching and shearing process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

103

Install a transfer chute

SAQA US ID	UNIT STANDARD TITLE		
10850	Install a transfer chute		
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 factors critical to installing a transfer chute.

SPECIFIC OUTCOME 2

Prepare to install a transfer chute.

SPECIFIC OUTCOME 3

Install the transfer chute.

SPECIFIC OUTCOME 4

Test the transfer chute and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

104

Roll material by means of a plate-rolling machine

SAQA US ID	UNIT STANDARD TITLE		
10851	Roll material by means of a plate-rolling 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 factors critical to rolling material by means of a plate-rolling machine.

SPECIFIC OUTCOME 2

Prepare to roll the material.

SPECIFIC OUTCOME 3

Roll the material.

SPECIFIC OUTCOME 4

Complete the rolling process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

105

Overhaul a double-drum scraper winch

SAQA US ID	UNIT STANDARD TITLE		
10852	Overhaul a double-drum scraper winch		
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

Explain the factors critical to overhauling a double-drum scraper winch.

SPECIFIC OUTCOME 2

Prepare to overhaul a double-drum scraper winch.

SPECIFIC OUTCOME 3

Overhaul the double-drum scraper winch.

SPECIFIC OUTCOME 4

Test the double-drum scraper winch and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

106

Overhaul a positive displacement pump

SAQA US ID	UNIT STANDARD TITLE		
10853	Overhaul a positive displacement 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**

Explain the factors critical to overhauling a positive displacement pump.

SPECIFIC OUTCOME 2

Prepare to overhaul a positive displacement pump.

SPECIFIC OUTCOME 3

Overhaul the positive displacement pump.

SPECIFIC OUTCOME 4

Complete the overhauling process and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

107

Repair a positive displacement pump

SAQA US ID	UNIT STANDARD TITLE		
10854	Repair a positive displacement 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

Explain the factors critical to repairing a positive displacement pump.

SPECIFIC OUTCOME 2

Prepare to repair a positive displacement pump.

SPECIFIC OUTCOME 3

Repair a positive displacement pump.

SPECIFIC OUTCOME 4

Test the positive displacement pump and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

108

Repair a transfer chute

SAQA US ID	UNIT STANDARD TITLE		
10855	Repair a transfer chute		
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 factors critical to repairing a transfer chute.

SPECIFIC OUTCOME 2

Prepare to repair a transfer chute.

SPECIFIC OUTCOME 3

Repair the transfer chute.

SPECIFIC OUTCOME 4

Test the transfer chute and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

109

Install a V-belt drive

SAQA US ID	UNIT STANDARD TITLE		
10856	Install a V-belt drive		
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 factors critical to installing a V-belt drive.

SPECIFIC OUTCOME 2

Prepare to install a V-belt drive.

SPECIFIC OUTCOME 3

Install the V-belt drive.

SPECIFIC OUTCOME 4

Test the V-belt drive and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

110

Replace a radial door on a transfer chute

SAQA US ID	UNIT STANDARD TITLE		
10857	Replace a radial door on a transfer chute		
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 factors critical to replacing a radial door on a transfer chute.

SPECIFIC OUTCOME 2

Prepare to replace the radial door on a transfer chute.

SPECIFIC OUTCOME 3

Replace the radial door on a transfer chute.

SPECIFIC OUTCOME 4

Test the radial door and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

111

Repair a V-belt drive

SAQA US ID	UNIT STANDARD TITLE		
10858	Repair a V-belt drive		
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 factors critical to repairing a V-belt drive.

SPECIFIC OUTCOME 2

Prepare to repair the V-belt drive.

SPECIFIC OUTCOME 3

Repair the V-belt drive.

SPECIFIC OUTCOME 4

Test the V-belt drive and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

112

Repair a hydraulic cylinder

SAQA US ID	UNIT STANDARD TITLE		
10859	Repair a hydraulic cylinder		
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 factors critical to repairing a hydraulic cylinder.

SPECIFIC OUTCOME 2

Prepare to repair a hydraulic cylinder.

SPECIFIC OUTCOME 3

Repair the hydraulic cylinder.

SPECIFIC OUTCOME 4

Test the hydraulic cylinder and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

113

Repair a pneumatic cylinder

SAQA US ID	UNIT STANDARD TITLE		
10861	Repair a pneumatic cylinder		
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 factors critical to repairing a pneumatic cylinder.

SPECIFIC OUTCOME 2

Prepare to repair a pneumatic cylinder.

SPECIFIC OUTCOME 3

Repair the pneumatic cylinder.

SPECIFIC OUTCOME 4

Test the pneumatic cylinder and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

114

Replace a pneumatic cylinder

SAQA US ID	UNIT STANDARD TITLE		
10863	Replace a pneumatic cylinder		
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 factors critical to replacing a pneumatic cylinder.

SPECIFIC OUTCOME 2

Prepare to replace the pneumatic cylinder.

SPECIFIC OUTCOME 3

Replace the pneumatic cylinder.

SPECIFIC OUTCOME 4

Test the pneumatic cylinder and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

115

Overhaul a pneumatic cylinder

SAQA US ID	UNIT STANDARD TITLE		
10864	Overhaul a pneumatic cylinder		
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 factors critical to overhauling a pneumatic cylinder.

SPECIFIC OUTCOME 2

Prepare to overhaul a pneumatic cylinder.

SPECIFIC OUTCOME 3

Overhaul the pneumatic cylinder.

SPECIFIC OUTCOME 4

Test the pneumatic cylinder and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

116

Replace a hydraulic pump/motor

SAQA US ID	UNIT STANDARD TITLE		
10866	Replace a hydraulic pump/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 2	3

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain the factors critical to replacing a hydraulic pump/motor.

SPECIFIC OUTCOME 2

Prepare to replace a hydraulic pump/motor.

SPECIFIC OUTCOME 3

Replace the hydraulic pump/motor.

SPECIFIC OUTCOME 4

Test the hydraulic pump/motor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

117

Replace the torque converter of a self-propelled mobile

SAQA US ID	UNIT STANDARD TITLE		
10867	Replace the torque converter of a self-propelled mobile		
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 factors critical to replacing the torque converter of a self-propelled mobile machine.

SPECIFIC OUTCOME 2

Prepare to replace the torque converter.

SPECIFIC OUTCOME 3

Replace the torque converter.

SPECIFIC OUTCOME 4

Test the torque converter and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

118

Replace a pneumatic motor

SAQA US ID	UNIT STANDARD TITLE		
10869	Replace a pneumatic 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 2	3

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to replacing a pneumatic motor.

SPECIFIC OUTCOME 2

Prepare to replace a pneumatic motor.

SPECIFIC OUTCOME 3

Replace the pneumatic motor.

SPECIFIC OUTCOME 4

Test the pneumatic motor and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

119

Repair the torque converter of a self-propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
10870	Repair the torque converter of a self-propelled 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	4

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the factors critical to repairing the torque converter of a self-propelled mobile machine.

SPECIFIC OUTCOME 2

Prepare to repair the torque converter.

SPECIFIC OUTCOME 3

Repair the torque converter.

SPECIFIC OUTCOME 4

Test the torque converter and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

120

Overhaul the torque converter of a self-propelled mobile

SAQA US ID	UNIT STANDARD TITLE		
10872	Overhaul the torque converter of a self-propelled mobile		
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 factors critical to overhauling the torque converter of a self-propelled mobile machine.

SPECIFIC OUTCOME 2

Prepare to overhaul the torque converter.

SPECIFIC OUTCOME 3

Overhaul the torque converter.

SPECIFIC OUTCOME 4

Test the torque converter and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

121

Overhaul the cylinder head assembly of an internal combustion engine

SAQA US ID	UNIT STANDARD TITLE		
10875	Overhaul the cylinder head assembly of an internal combustion engine		
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

Explain the factors critical to overhauling a cylinder head assembly.

SPECIFIC OUTCOME 2

Prepare to overhaul a cylinder head assembly.

SPECIFIC OUTCOME 3

Overhaul the cylinder head assembly.

SPECIFIC OUTCOME 4

Test the cylinder head assembly and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

122

Log borehole core to obtain geological information on the depositional environment in a Witwatersrand-type gold deposit

SAQA US ID	UNIT STANDARD TITLE		
11679	Log borehole core to obtain geological information on the depositional environment in a Witwatersrand-type gold deposit		
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 MAP	Regular	Level 6	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to log borehole core.

SPECIFIC OUTCOME 2

Prepare to log the borehole core.

SPECIFIC OUTCOME 3

Log the borehole core.

SPECIFIC OUTCOME 4

Conduct post-logging activities and compile and present reports.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

123

Control a Platinum Group Metals Ingot production process in a metallurgical plant

SAQA US ID	UNIT STANDARD TITLE		
110438	Control a Platinum Group Metals Ingot 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 ingot production process.

SPECIFIC OUTCOME 2

Demonstrate knowledge relating to the pgm ingot production process.

SPECIFIC OUTCOME 3

Control a PGM ingot production process.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the controlling of a pgm ingot production process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

124

Break big rocks by means of drilling and blasting using a secondary breaker

SAQA US ID	UNIT STANDARD TITLE		
15337	Break big rocks by means of drilling and blasting using a secondary breaker		
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	7

Specific Outcomes:**SPECIFIC OUTCOME 1**

Explain specified requirements pertaining to breaking big rocks by means of drilling and blasting with a secondary breaker.

SPECIFIC OUTCOME 2

Prepare to break big rocks by means of drilling and blasting with a secondary breaker.

SPECIFIC OUTCOME 3

Break big rocks by means of drilling and blasting with a secondary breaker.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

125

Charge up a work face for blasting in an underground coal mine

SAQA US ID	UNIT STANDARD TITLE		
15335	Charge up a work face for blasting in an underground coal mine		
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	11

Specific Outcomes:

SPECIFIC OUTCOME 1

Prepare to charge-up a face.

SPECIFIC OUTCOME 2

Charge up a face.

SPECIFIC OUTCOME 3

Demonstrate teamwork.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

126

Control an elution process in a metallurgical plant

SAQA US ID	UNIT STANDARD TITLE		
15338	Control an elution 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 an elution process.

SPECIFIC OUTCOME 2

Demonstrate knowledge relating to the operation of the elution process.

SPECIFIC OUTCOME 3

Control an elution process.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the controlling of an elution process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

127

Place and operate an auxiliary fan in an underground coal mine

SAQA US ID	UNIT STANDARD TITLE		
15339	Place and operate an auxiliary fan in an underground coal mine		
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	13

Specific Outcomes:

SPECIFIC OUTCOME 1

Prepare to install an auxiliary fan.

SPECIFIC OUTCOME 2

Install an auxiliary fan.

SPECIFIC OUTCOME 3

Demonstrate teamwork.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

128

Supervise the installation and operation of a belt conveyor in an underground coal mine

SAQA US ID	UNIT STANDARD TITLE		
15334	Supervise the installation and operation of a belt conveyor in an underground coal mine		
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	15

Specific Outcomes:

SPECIFIC OUTCOME 1

Prepare to supervise.

SPECIFIC OUTCOME 2

Supervise.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

129

Transport material and equipment using a load haul dumper in an underground coal mine

SAQA US ID	UNIT STANDARD TITLE		
15333	Transport material and equipment using a load haul dumper in an underground coal mine		
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	13

Specific Outcomes:

SPECIFIC OUTCOME 1

Prepare to transport material and equipment.

SPECIFIC OUTCOME 2

Transport material and equipment.

SPECIFIC OUTCOME 3

Shut down the transporting operation and prepare for following shift.

SPECIFIC OUTCOME 4

Demonstrate teamwork.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

130

Repair the axle assembly of an air-driven mechanical loader

SAQA US ID	UNIT STANDARD TITLE		
10818	Repair the axle assembly of an air-driven mechanical loader		
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 factors critical to repairing the axle assembly of an air-driven mechanical loader.

SPECIFIC OUTCOME 2

Prepare to repair the axle assembly.

SPECIFIC OUTCOME 3

Repair the axle assembly.

SPECIFIC OUTCOME 4

Test the air-driven mechanical loader and prepare for operation and/or production.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

131

Replace the cylinder head assembly of an internal combustion engine

SAQA US ID	UNIT STANDARD TITLE		
10873	Replace the cylinder head assembly of an internal combustion engine		
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

Explain the factors critical to replacing a cylinder head assembly.

SPECIFIC OUTCOME 2

Prepare to replace the cylinder head assembly.

SPECIFIC OUTCOME 3

Replace the cylinder head assembly.

SPECIFIC OUTCOME 4

Test the cylinder head assembly and prepare for operation and/or production.