

**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 Organising Field 06 – Manufacturing, Engineering and Technology, publishes the following Qualification and Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualification and Unit Standards. The full Qualification and Unit Standards can be accessed via the SAQA web-site at www.saga.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualification and Unit Standards should reach SAQA at the address below and **no later than 13 August 2007**. All correspondence should be marked **Standards Setting – Mining and Minerals** and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:**National Certificate: Mining Operations for Underground Hard Rock**

SAQA QUAL ID		QUALIFICATION TITLE	
58739		National Certificate: Mining Operations for Underground Hard Rock	
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	6 - Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	130	Level 2	Regular-Unit Stds Based

PURPOSE OF THE QUALIFICATION

Purpose:

This qualification will provide qualifying learners with the necessary knowledge, understanding and competence to work as a first line mining supervisor in underground hardrock mines.

The mining supervisor plays a critical role in the mining industry. Mining activities are often conducted under hazardous and difficult conditions, which have to be managed appropriately in order to preserve the lives of those working in the industry, and ensure operational efficiency. While the title "supervisor" implies supervisory, management and leadership competencies, these competencies are applied in conjunction with technical and operational competencies. The mining supervisor is directly responsible for the lives of his team and not only for merely achieving production targets.

This qualification will have a positive impact on the production of minerals and contribute significantly to society in general and the South African economy. Furthermore, the mining industry creates opportunity for many secondary and tertiary mining and minerals related business activities. In many parts of South Africa, entire communities would be significantly affected if mining activities were to cease.

Learners acquiring this qualification will have an improved understanding of their role; acquire the applied competencies to consistently and effectively execute their duties by contributing to the mining process and adhering to quality, occupational safety and legislative requirements.

The qualification is designed to be flexible and accessible so that people are able to demonstrate the competencies required to work in a safe, healthy and effective manner in an underground environment.

People credited with this qualification are able to:

- Communicate and solve problems in a variety of ways.
- Adhere to occupational safety, health, environmental and legislative requirements.
- Extract rock/minerals in accordance with production, occupational health and safety, quality and environmental requirements.
- Supervise the activities of mining teams.

Rationale:

The mining industry is one of the major contributors to the South African GDP and by the nature of its operations employs a large number of people.

Underground mining activities involve the safe breaking, removal and support of rock and are very labour intensive. Supervisors working underground require sound technical knowledge of the mining process as well as supervisory qualities to lead teams involved in all the activities directly related to extraction of rock or mineral.

This qualification is a revision of the previous National Certificate in Mining Operations (NRLD 49013) registered with SAQA. Changes are incorporated as a result of 4 years of practical implementation in the mining industry and reflect the drive towards continual improvement.

The National Certificate in Mining Operations for Underground Hard Rock NQF Level 2 facilitates access for previously disadvantaged groups and other learners to acquire the technical knowledge and skills that are required to supervise teams involved in the excavation and removal of rock in underground mines. It will enhance the status and employability of the learner within the mining and minerals industry and contribute significantly to his or her performance in terms of both quality and quantity of work output. The qualification also allows for further access, career progression, portability and mobility within and between the different mining operations' areas in the mining and minerals industry.

This qualification will have a positive impact on the production on minerals and contribute significantly to society in general and the South African economy. Furthermore, the mining industry creates opportunity for many secondary and tertiary mining and minerals related business activities.

This is the first in a learning pathway of four qualifications for Mining Operations. The pathway ends with the National Certificate in Mining Overseeing NQF Level 5. This qualification series recognises the skills, knowledge and values relevant to a workplace and requires workplace experience.

The majority of the learners learning towards this qualification are likely to be working in the mining and minerals sector as team members involved in underground mining activities. The qualification will give them the opportunity to balance their practical skills with the essential knowledge needed to earn a formal qualification in the supervision of mining operations.

Qualifying learners will obtain the National Certificate in Mining Operations for Underground Hard Rock NQF Level 2 which will enable them to directly supervise the teams involved in the safe breaking, removal and support of rock or mineral. Depending on their learning path and work experience before engaging in learning towards this qualification, a period of practical work may be required before commencing with the National Certificate in Rock Breaking NQF Level 3.

RECOGNIZE PREVIOUS LEARNING?

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LEARNING ASSUMED IN PLACE

It is assumed that learners embarking on learning towards this qualification are already competent in the following:

- Communications and Mathematical Literacy - ABET Level 2.

Learners who have achieved any of the registered mining skills programmes will also be better positioned in terms of achieving this qualification.

Recognition of Prior Learning:

This qualification can be achieved wholly or in part through recognition of prior learning in terms of the criteria laid out.

Evidence can be presented in a variety of forms, including international or previous local qualifications, reports, testimonials mentioning functions performed, work records, portfolios, videos of practice and performance records.

Access to Qualification:

Access to this qualification is open; however it is preferable if learners have worked in an underground mine on a production team.

QUALIFICATION RULES**Fundamental:**

- All 37 credits must be achieved.

Core:

- All 63 credits from the list of Core Unit Standards must be achieved.

Elective:

- A minimum of 30 credits at level 2 or above must be selected from the list of elective unit standards.

EXIT LEVEL OUTCOMES

1. Communicate and solve problems in a variety of ways.
2. Adhere to occupational health, safety, environmental and legislative requirements in the workplace.
3. Extract minerals or rock in accordance with production, occupational health and safety, quality, other legislative and environmental requirements.
 - Range: Includes but not limited to MHSA and Regulations, Codes of Practice, Standards and procedures.
4. Supervise the activities of mining teams.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes. The way in which the critical cross-field outcomes are addressed is presented in detail in the unit standards outlined in the Annexures.

SAQA Critical Cross-Field Outcomes 1:

Identifying and solving problems in which responses display that responsible decisions using critical thinking have been made.

- Refer to all Exit Level Outcomes.

SAQA Critical Cross-Field Outcomes 2:

Working effectively with others as a member of a team, group, organization and community.

- Refer to all Exit Level Outcomes.

SAQA Critical Cross-Field Outcomes 3:

Organising and managing oneself and one's activities responsibly and effectively.

- Refer to the following Exit Level Outcome/s:
 - Communicate and solve problems in a variety of ways.
 - Extract minerals or rock in accordance with production, occupational health and safety, quality, other legislative and environmental requirements.

SAQA Critical Cross-Field Outcomes 4:

Collecting, analyzing, organizing and critically evaluating information.

- Refer to the following Exit Level Outcome/s:
 - Communicate and solve problems in a variety of ways.
 - Extract minerals or rock in accordance with production, occupational health and safety, quality, other legislative and environmental requirements.
 - Supervise the activities of mining teams.

SAQA Critical Cross-Field Outcomes 5:

Communicating effectively using visual, mathematical and/or language skills.

- Refer to the following Exit Level Outcome/s:
 - Communicate and solve problems in a variety of ways.
 - Supervise the activities of mining teams.

SAQA Critical Cross-Field Outcomes 6:

Using science and technology effectively and critically, showing responsibility toward the environment and health of others.

- Refer to the following Exit Level Outcome/s:
 - Communicate and solve problems in a variety of ways.
 - Extract minerals or rock in accordance with production, occupational health and safety, quality, other legislative and environmental requirements.
 - Supervise the activities of mining teams.

SAQA Critical Cross-Field Outcomes 7:

Demonstrating an understanding of the world as a set of related systems by recognizing that problem contexts do not exist in isolation.

- Refer to the following Exit Level Outcome/s:
 - Extract minerals or rock in accordance with production, occupational health and safety, quality, other legislative and environmental requirements.
 - Supervise the activities of mining teams.

SAQA Critical Cross-Field Outcomes 8:

Contributing to the full personal development of each learner and the social and economic development of society at large, by making it an underlying intention of the programme of learning to make an individual aware of:

- Reflecting on and exploring a variety of strategies to learn more effectively.
 - Participating as responsible citizens in the life of local, national and global communities.
 - Being culturally and aesthetically sensitive across a range of contexts.
 - Exploring education and career opportunities.
 - Developing entrepreneurial opportunities.
- Refer to the following Exit Level Outcome/s:
 - Communicate and solve problems in a variety of ways.
 - Supervise the activities of mining teams.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

- Oral communication is maintained and adapted as required to promote effective team work.
- Written communication is conducted at an appropriate level for designated target audiences.
- Numeracy skills are applied while performing tasks in the operational context.
- Problems and solutions are recorded and monitored.

Associated Assessment Criteria for Exit Level Outcome 2:

- Occupational health, safety and environmental principles and practices are understood and applied in the workplace.
- Hazardous conditions are identified and rectified on a continual basis to ensure the safety of persons in the workplace.
- Hazardous conditions are monitored and reported on a continual basis to ensure the safety and health of persons.

Associated Assessment Criteria for Exit Level Outcome 3:

- The mining cycle related to the extraction of mineral or rock is understood and applied in the workplace.
 - Range: The mining cycle refers to the safe breaking, removal and support of hardrock in accordance with site specific codes of practice.
- Mining activities directly related to mineral extraction are conducted in order to achieve the required production rates in terms of quantity, quality and costs.
- Mining activities are performed in accordance with the requirements of the current Mines Health and Safety Act and regulations, mine specific standards and procedures and relevant environmental requirements.
- Engineering equipment and services are used effectively in the mining process.

Associated Assessment Criteria for Exit Level Outcome 4:

- Inputs from relevant sources are evaluated and discussed in order to achieve objectives.
- Activities of team members are co-ordinated in order to achieve both individual and team work objectives.
- Work outputs of the team are monitored, evaluated and where necessary corrected to achieve the desired targets.

Integrated Assessment:

Integrated assessment at the level of the qualification provides an opportunity for learners to show they are able to integrate concepts, actions and ideas achieved across a range of unit standards and contexts.

Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance, and must be based on a summative assessment guide. The guide will spell out how the assessor will assess different aspects of the performance and will include:

- Observing the learner at work (both in the primary activity as well as other interactions)
- Asking questions and initiating short discussions to test understanding.
- Looking at records and reports in the portfolio and reviewing previous assessments.

In some cases interference will be necessary to determine competence depending on the nature and context within which performance takes place.

It is necessary to ensure that the fundamental part of the qualification is also targeted to ensure that while the competence may have been achieved in a particular context, learners are able to apply it in a range of other contexts and for future learning. The assessment should also ensure that all the critical cross-field outcomes have been achieved.

The learner may choose in which language s/he wants to be assessed. This should be established as part of a process of preparing the learner for assessment and familiarising the learner with the approach being taken.

While this is primarily a workplace-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the exit-level outcomes. The assessment process should cover both the explicit tasks required for the qualification as well as the understanding of the concepts and principles that underpin the activities associated with the mining process.

INTERNATIONAL COMPARABILITY

Mining activities occur in many countries all over the world, although the South African mining industry is more diverse than that of most other countries. South African mines are of the deepest in the world, which has required a high level of expertise and the maintenance of stringent occupational health and safety standards.

In keeping with the diverse nature of the South African mining industry, the NC Mining Operations Level 2 covers both massive and narrow tabular mining, which makes it difficult to compare to another qualification which may cover only one of these contexts.

The specific nature of underground hardrock, or narrow tabular, mining requires competencies and personal characteristics which are unique in relation to other forms of mining or minerals extraction. The mining conditions are intense, and workers are subject to physical and emotional challenges relating to restricted space, heat, humidity, darkness and hard physical labour.

The materials, equipment and techniques applied in narrow tabular mining are very specialised and therefore comparable competencies, qualifications and courses will only be found where similar mining conditions are present.

There are not many countries in the world where deep scale mining is practised, and therefore only a few comparable training programmes or qualifications could be found. After consultation with experienced mining engineers, it was decided to search for information in the following countries or regions for education and training systems pertaining to the safe breaking, removal and support of hard rock.

- India.
- New Zealand.
- Australia.
- North and South America.

- Canada.
- Zambia.
- Botswana.

Aspects searched for were qualifications, certificates, diplomas, skills programmes, training courses and examination syllabi.

India, New Zealand, Canada and Australia are considered best practice because many aspects of their mining operations relate and compare to similar aspects of mining operations within the South African industry.

A limiting aspect regarding international comparability is that the NQF Framework of South Africa and other countries are not identical, e.g. between South Africa and Australia. It is thus more meaningful to compare learning pathways, rather than individual qualifications. For that reason the NC Mining Operations Level 2 and Rockbreaking Level 3 have been in some cases compared to the same international qualifications, spanning both our levels.

India:

- India has one of the fastest growing economies in the world.
- Mining practices are well established and considered to be best practice.
- Underground mining conditions are similar to those envisaged in this qualification.
- India has a well structured outcomes-based training and education system.
- Details found (www.dqms.in)
 - There is a relation between the examination syllabi of the Mining Mates certificate and unit standards within the National Certificate in Mining Operations for Underground Hard Rock (Level 2) - South Africa as follows:

Mining Mates Certificate:

- Method of examining hanging wall, foot wall, roof and sides of working places and roadways etc.
- Method of timbering, pack walling and setting support, withdrawal of supports, fencing of dangerous places.
- Blasting and transport and use of explosives in mines.
- Ventilation and mine gases- elementary.

National Certificate in Mining Operations:

- Follow basic health and safety practices underground.
- Make safe a workplace by means of barring.
- Demonstrate a basic understanding of the causes of falls of ground.
- Support an underground working place by means of stick support.
- Install and remove mechanical props.
- Support an underground working place by means of timber pack support.
- Install and remove hydraulic props.
- Support an underground working place by means of sets.
- Charge shot holes with cartridged explosives and accessories.
- Charge shot holes with ammonium nitrate based explosives.
- Charge shot holes with bulk explosives.
- Transport explosives and accessories by means of rolling stock.
- Transport explosives and accessories by means of a self propelled mobile machine.
- Charge with propellant based cartridges.
- Treat and remove misfires.

- Determine velocity of air in a workplace by means of the tape method and take appropriate action.
- Demonstrate knowledge of the most common harmful gases and vapours.
- Test for flammable gas in a mining environment by means of a hand held electronic instrument and take appropriate action.
- Describe the basic environmental factors of ventilating an underground working place to ensure a safe and healthy working environment.
- Determine environmental thermal conditions in an underground workplace by means of a whirling hygrometer and take appropriate action.
- Install underground workplace ventilation controls.

Conclusions:

- The Mining Mates certificate of competency appears to be pitched at a slightly higher level than the National Certificate in Mining Operations as it includes blasting experience/training.
- There is a fair degree of correlation between the two qualifications.
- Those competencies that relate to similar competencies within the National Certificate in Mining Operations seem to contain slightly less credits as they are probably more generalised.
- The intent and content of the NC Mining Operations L2 compare favourably with the Indian qualification.

New Zealand:

- New Zealand has a well-developed economy and mining sector.
- Mining conditions and practices are similar to those in South Africa, although the mines are not quite as deep.
- Mining practices are well established and considered to be best practice.
- New Zealand a well structured outcomes-based training and education system.
- Details found (www.nzqa.govt.nz).
- A National Certificate in Extractive Industries (Operations) was found.
- There is a relation between the unit standards within the New Zealand qualification and unit standards within the National Certificate in Mining Operations for Underground Hard Rock (Level 2) - South Africa as follows:

National Certificate in Extractive Industries (Operations):

- Suppress fire with hand extinguishers and fixed hose reels.
- Manage first aid in emergency situations.
- Provide first aid.
- Protect health and safety in the workplace.
- Lift and move a range of loads at an extractive site.
- Assess and support roof and sides of an underground mine.
- Maintain services of an underground workplace.

National Certificate in Mining Operations:

- Extinguish a fire underground by means of a portable fire extinguisher.
- Perform basic life support and/or first aid procedures in emergencies.
- Follow basic health and safety practices underground.
- Lift and move a load using mechanical lifting equipment.
- Support an underground working place by means of timber pack support.
- Install and remove hydraulic props.
- Support an underground working place by means of sets.
- Support an underground work place by means of wire mesh and lacing.
- Support an underground working place by means of backfilling.

- Support an underground working place by means of full column grouted rods.
- Support an underground working place by means of a thin-sprayed lining.
- Support an underground working place by means of mechanical anchors.
- Support an underground workplace by means of grout packs.
- Support an underground workplace with support straps.
- Install an electrical cable.
- Replace an in-line ventilation fan in an underground environment.
- Install a set of rails.
- Install a rail turn-out.

Conclusions:

- Although the National Certificate in Extractive Industries (Operations) is pitched at level 3 the majority of the unit standards that relate to unit standards within the National Certificate in Mining Operations have a slightly lower level and credits There is a fair degree of correlation between the two qualifications.
- This is probably a result of the difference in the nature of mining operations between the two countries, the operations in South Africa being larger in scope and possibly more intensified.
- The intent and content of the NC Mining Operations L2 compare favourably with the New Zealand qualification.

Australia:

- Australia has a well-developed economy and mining sector.
- Mining conditions and practices are similar to those in South Africa, including some very deep mines.
- Mining practices are well established and considered to be international best practice.
- Australia has a well structured outcomes-based training and education system.
- Details found (www.riisc.com.au).
- A Certificate II in Metalliferous Mining Operations.
- This qualifications compares to the South African qualification as follows:

Certificate II in Metalliferous Mining Operations-Underground:

- Work safely.
- Conduct local risk assessment.
- Plan and organize individual work.
- Perform initial response First Aid.
- Store, handle and transport explosives.
- Install ground support.
- Conduct wet filling activities.
- Install and remove a secondary fan.

National Certificate in Mining Operations:

- Follow basic health and safety practices underground.
- Conduct continuous hazard identification and risk assessment within a workplace.
- Plan, organise, lead and control activities.
- Perform basic life support and/or first aid procedures in emergencies.
- Transport explosives and accessories by means of rolling stock.
- Transport explosives and accessories by means of a self propelled mobile machine.
- Support an underground working place by means of timber pack support.
- Install and remove hydraulic props.
- Support an underground working place by means of sets.
- Support an underground work place by means of wire mesh and lacing.

- Support an underground working place by means of backfilling.
- Support an underground working place by means of full column grouted rods.
- Support an underground working place by means of a thin-sprayed lining.
- Support an underground working place by means of mechanical anchors.
- Support an underground workplace by means of grout packs.
- Support an underground workplace with support straps.
- Replace an in-line ventilation fan in an underground environment.

Conclusions:

- The Australian and South African unit standards seem to be closely comparable in the case of the Certificate II in Metalliferous Mining Operations-Underground in terms of purpose, levels and credits.
- The Australian unit standards might be more generalised in terms of the applicable outcomes.
- Although not every aspect of the National Certificate in Mining Operations for Underground Hard Rock (Level 2) is covered within the above mentioned certificates, they provide useful training information in terms of the comparable portions to persons wanting to qualify for the South African certificate.
- No comparable short courses or in-house programmes could be found.
- The intent and content of the Australian Certificate II compare well to the South African National Certificate in Mining Operations (L2) for Underground Hardrock Mining.

Canada:

- Canada is a well-developed country.
- Mining conditions and practices are similar to those in South Africa, including some very deep mines.
- Education and training is not centralised, but each of the 13 provinces and regions is responsible for education and training.
- There is a degree of cooperation by means of the Canadian Ministers of Education Council (CMEC).
- According to the National Occupational Matrix underground miners are generally trained on the job.
- Duties for underground miners are listed as:
 - Set up and operate drills and drilling machines to produce a designated pattern of blasting holes.
 - Operate diamond drills or other specialized drills such as raise boring machinery to test geological formations or to produce underground passageways.
 - Set up and operate mining machinery to shear coal, rock or ore from the working face.
 - Load explosives, set fuses, and detonate explosives to produce desired blasting patterns and rock fragmentation in underground mines.
 - Operate scooptram, load-haul-dump (LHD) machine or mucking machine to load and haul ore from stopes, drifts and drawpoints to ore passes.
 - Perform duties required to ensure safety and to support the mining advance, such as scaling loose rock from walls and roof, drilling and installing rock bolts, extending and installing air and water pipes, operating ore loading machinery, inspecting mine shafts, operating hoists that transport people, equipment and materials through mine shafts, and constructing timber supports and cribbing if required.
 - Perform routine maintenance of mining machinery.
- The Saskatchewan Institute for Applied Skills and Technology offers an Underground Mining Level 1 Programme (www.siastr.sk.ca) with relevant content courses (modules):
 - Ground Control.
 - Mine Ventilation.
 - Shaft Operations.
 - Introduction to Mining Safety.
 - Introduction to the Mining Industry.

- Conclusion: The competencies envisaged by the Mining Operations learning pathway will lead to competence in the duties listed above and one can thus conclude that the learning contents will compare favourably.

Other Countries:

- In the SADC region operators within the breaking, removal and support of hard rock in mines are taught the skills at the workplace. No generic courses/programmes could be found to perform a comparative analysis.
- Apart from the countries listed above, no further qualifications, courses or programmes could be found that could be compared to the competencies within the National Certificate in Mining Operations for Underground Hard Rock (Level 2).

Overall Conclusion:

The NC Mining Operations L2 standards form a meaningful contribution to a learning pathway in underground mining. They are comparable to on the job training, courses and qualifications in the international arena.

ARTICULATION OPTIONS

The qualification allows for both horizontal and vertical articulation.

Horizontal:

- National Certificate: Strata Control, NQF Level 2. (Under construction).
- National Certificate: Mining Operations Underground Coal, NQF Level 2. (Under construction).

Vertical:

- ID 58760: National Certificate: Rock Breaker Underground Hardrock, NQF Level 3.
- National Certificate: Rock Breaker Underground Coal, NQF Level 3. (Under construction).
- National Certificate: Rock Breaker Surface Mining, NQF Level 3. (Under construction).

The qualification articulates well with other mining related qualifications and will allow the individual to progress to other qualifications in mining, mining-related sub-fields and mining supervision in all the various sectors of the mining industry.

MODERATION OPTIONS

- Anyone assessing a learner or moderating the assessment of a learner against the qualification must be registered as an assessor with the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.
- Any institution offering learning that will enable the achievement of this qualification must be accredited as a provider with the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.
- Assessment and moderation of assessment will be overseen by the relevant Education, Training, Quality, Assurance (ETQA) Body, or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.
- Moderation must include both internal and external moderation of assessments, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the associated unit standards.

- Anyone wishing to be assessed against this qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors should be in possession of:

- An appropriate qualification at or above the level of the qualification and preferably relevant workplace practical experience.
- Registration as an assessor with the relevant ETQA.

NOTES

This qualification replaces qualification 49013, "National Certificate: Mining Operations: Underground Hard Rock", Level 2, 140 credits.

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Core	14656	Demonstrate an understanding of sexuality and sexually transmitted infections including HIV/AIDS	Level 1	5
Core	244431	Demonstrate an understanding of typical basic underground hard rock mining services, processes and layouts	Level 1	4
Core	244448	Extinguish a fire by means of a portable fire extinguisher	Level 1	1
Core	119567	Perform basic life support and first aid procedures	Level 1	5
Core	115087	Conduct a preliminary incident investigation into workplace health, safety and environmental incidents	Level 2	2
Core	244383	Conduct continuous hazard identification and risk assessment within a workplace	Level 2	2
Core	244453	Demonstrate an understanding of the identification of and dealing with rock strata conditions	Level 2	5
Core	244429	Demonstrate knowledge and understanding of blasting products and their usage in an underground hard rock environment	Level 2	2
Core	244400	Describe the basic environmental factors of ventilating an underground working place to ensure a safe and healthy working environment	Level 2	3
Core	244405	Determine environment thermal conditions in an underground workplace by means of a whirling hygrometer and take appropriate action	Level 2	2
Core	244368	Determine velocity of air in a workplace by means of the tape method and take appropriate action	Level 2	1
Core	244445	Follow basic health and safety practices underground	Level 2	5
Core	244408	Install and remove pipes and accessories	Level 2	3
Core	244416	Make safe a workplace by means of barring	Level 2	3
Core	244433	Test for flammable gas in a mining environment by means of a hand held electronic instrument and take appropriate action	Level 2	2
Core	244403	Analyse and solve problems	Level 3	4
Core	244422	Demonstrate knowledge of the most common harmful gases and vapours	Level 3	4
Core	244449	Plan, organise, lead and control activities	Level 3	10
Elective	9654	Acquire an appreciation for the role of rock engineering in the mining process	Level 1	4
Elective	244413	Construct a concrete winch bed	Level 1	1
Elective	244447	Extend tracks by means of jump-sets and sliding rails	Level 1	2
Elective	244446	Install a blocking barricade	Level 1	2
Elective	244402	Install a dust-allaying device	Level 1	1
Elective	244382	Load a battery onto and remove it from a locomotive	Level 1	1
Elective	244393	Transport explosives and accessories by means of rolling stock	Level 1	2
Elective	244442	Transport persons by means of a locomotive and carriage	Level 1	1
Elective	244419	Assemble Oxy-acetylene equipment	Level 2	1
Elective	244417	Assemble and maintain scraper cleaning equipment and	Level 2	7

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
		rigging		
Elective	244414	Bar and break big rocks with a mobile scaler	Level 2	6
Elective	244387	Break big rocks with a secondary breaker	Level 2	3
Elective	244443	Charge shot holes with primed explosives	Level 2	5
Elective	244401	Charge shot holes with propellant based cartridges and accessories	Level 2	2
Elective	244411	Construct an underground ladder-way	Level 2	2
Elective	244410	Construct and install platform	Level 2	1
Elective	244376	Cut mild steel by means of an Oxy-acetylene cutting torch	Level 2	3
Elective	244409	Doze material using a Tyre Dozer in an underground mine	Level 2	6
Elective	244377	Doze material using a track dozer in an underground mine	Level 2	6
Elective	244381	Drill holes by means of a stope drill-rig	Level 2	4
Elective	244415	Drill holes underground by means of a hand-held rock drill	Level 2	4
Elective	244363	Install a mono rope system	Level 2	4
Elective	244379	Install a rail turn-out in an underground workplace	Level 2	2
Elective	244398	Install a set of rails in an underground workplace	Level 2	2
Elective	244426	Install a stope box front and chute	Level 2	5
Elective	244430	Install a stope grizzly	Level 2	3
Elective	244367	Install a straining wire cable support system	Level 2	2
Elective	244451	Install an electrical cable	Level 2	3
Elective	244434	Install and remove ventilation columns and accessories	Level 2	3
Elective	244390	Install and remove ventilation columns, service columns and accessories by utilizing a scissor lift	Level 2	2
Elective	244425	Install underground workplace ventilation controls	Level 2	3
Elective	244365	Lift and move material and equipment by means of a forklift	Level 2	3
Elective	244361	Mark service holes underground	Level 2	4
Elective	244432	Measure, plot and interpret area measurements within an underground workplace	Level 2	3
Elective	244406	Move material by means of a mobilift in an underground mine	Level 2	6
Elective	244392	Operate a locomotive underground	Level 2	6
Elective	244404	Operate a monorail system	Level 2	4
Elective	244388	Re-rail a track bound unit	Level 2	3
Elective	244378	Receive, handle, store and issue explosives and accessories at a workplace	Level 2	2
Elective	244364	Remove an accumulation of water from an ore pass	Level 2	1
Elective	244394	Remove an obstruction from a draw point with a water canon	Level 2	3
Elective	244427	Remove broken rock by means of a high-pressure water jet unit	Level 2	3
Elective	244360	Remove broken rock by means of a scraper winch in an underground workplace	Level 2	4
Elective	244366	Remove broken rock by means of a suction unit	Level 2	3
Elective	244444	Remove broken rock by means of a track-bound mechanical loader	Level 2	5
Elective	10741	Replace an in-line ventilation fan in an underground environment	Level 2	2
Elective	244374	Shunt and tow material cars by means of a diesel powered tractor	Level 2	3
Elective	244450	Support an underground working place by means of anchors placed into drilled holes	Level 2	5
Elective	244370	Support an underground working place by means of area coverage of the rock surface	Level 2	8
Elective	244391	Support an underground working place by means of backfilling	Level 2	4
Elective	244385	Support an underground working place by means of elongated support units that are hydraulically stressed	Level 2	4
Elective	244420	Support an underground working place by means of packs	Level 2	5
Elective	244380	Support an underground working place by means of temporary support units	Level 2	3
Elective	244439	Support an underground workplace with support straps	Level 2	6
Elective	244373	Suppress dust in an underground mine using a water-bowzer.	Level 2	2
Elective	244441	Take charge of and drive a non-articulating vehicle	Level 2	3

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
		underground		
Elective	244421	Time a blasting round or circuit on a face where conventional fuses are used	Level 2	3
Elective	244424	Time a blasting round or circuit on a face where electric/electronic delay detonators are used	Level 2	3
Elective	244384	Time a blasting round or circuit on a face where shock tubes are used	Level 2	3
Elective	244371	Transfer material using a Rigid Body Rear Dumper in an underground mine	Level 2	2
Elective	244399	Transport broken rock by means of a diesel-powered dump truck in an underground mine	Level 2	3
Elective	244440	Transport explosives and accessories by means of a Self Propelled mobile machine	Level 2	3
Elective	244386	Transport material and equipment by means of a mono rope system	Level 2	3
Elective	244375	Transport materials by means of a skid steer loader in an underground workplace	Level 2	4
Elective	244362	Transport persons, material and equipment by means of a diesel powered quadro cycle in an underground mine	Level 2	2
Elective	244395	Transport persons, material and equipment by means of a fixed saddle utility vehicle in an underground mine	Level 2	5
Elective	244412	Transport persons, material and equipment by means of a light delivery vehicle (LDV) in an underground mine	Level 2	2
Elective	244452	Transport persons, material and equipment by means of an interchangeable-saddle utility vehicle in an underground mine	Level 2	2
Elective	244359	Transport rock, material and equipment by means of rolling stock	Level 2	3
Elective	115093	Control workplace hazardous substances	Level 3	4
Elective	115750	Demonstrate a basic understanding of the causes of falls of ground	Level 3	2
Elective	244423	Grade roadways by means of a motor grader in an underground mine	Level 3	8
Elective	244407	Lift and move a load using mechanical lifting equipment	Level 3	7
Elective	244428	Replace an electric motor	Level 3	5
Elective	244418	Support an underground working place by means of a concrete-spraying utility vehicle	Level 3	5
Elective	244372	Support an underground workplace by means of a hydraulic roof bolter	Level 3	5
Elective	244397	Take charge of and operate a remote controlled vehicle underground	Level 3	4
Elective	244396	Transport and load explosives into blast holes using a mixer-placer truck in an underground mine	Level 3	5
Fundamental	119363	Apply concepts of shape, space and measurement to make decisions relative to the world around us	Below Level 1	4
Fundamental	119376	Demonstrate an understanding and use of data handling and probability concepts	Below Level 1	4
Fundamental	119637	Engage in a range of speaking/signing and listening interactions	Below Level 1	6
Fundamental	119632	Use reading/viewing skills to respond to defined texts	Below Level 1	8
Fundamental	119367	Work with numbers; operations with numbers and relationships between numbers	Below Level 1	5
Fundamental	119375	Work with patterns, functions and algebra in different contexts	Below Level 1	4
Fundamental	119639	Write/sign defined texts	Below Level 1	6



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Receive, handle, store and issue explosives and accessories at a workplace***

SAQA US ID	UNIT STANDARD TITLE		
244378	Receive, handle, store and issue explosives and accessories at a workplace		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the receiving, handling, storage and issuing of explosives and accessories at a workplace.

SPECIFIC OUTCOME 2

Prepare to receive, handle, store and issue explosives and accessories at a workplace.

SPECIFIC OUTCOME 3

Receive, handle, store and issue explosives and accessories at a workplace.

SPECIFIC OUTCOME 4

Perform post-receiving, handling and storage and issuing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Doze material using a track dozer in an underground mine***

SAQA US ID	UNIT STANDARD TITLE		
244377	Doze material using a track dozer in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

SPECIFIC OUTCOME 1

Explain the Dozing of material using a track dozer in an underground mine.

SPECIFIC OUTCOME 2

Prepare to doze material using a track dozer.

SPECIFIC OUTCOME 3

Doze material using a track dozer.

SPECIFIC OUTCOME 4

Perform post-dozing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Cut mild steel by means of an Oxy-acetylene cutting torch***

SAQA US ID	UNIT STANDARD TITLE		
244376	Cut mild steel by means of an Oxy-acetylene cutting torch		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the factors critical to cutting mild steel by means of an Oxy-acetylene cutting torch.

SPECIFIC OUTCOME 2

Preparing to cut mild steel by means of an Oxy-acetylene cutting torch.

SPECIFIC OUTCOME 3

Cut the mild steel by means of an Oxy-acetylene cutting torch.

SPECIFIC OUTCOME 4

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



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport materials by means of a skid steer loader in an underground workplace***

SAQA US ID	UNIT STANDARD TITLE		
244375	Transport materials by means of a skid steer loader in an underground workplace		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain the transporting of materials by means of a skid steer loader.

SPECIFIC OUTCOME 2

Prepare to transport materials by means of a skid steer loader.

SPECIFIC OUTCOME 3

Transport materials by means of a skid steer loader.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Shunt and tow material cars by means of a diesel powered tractor***

SAQA US ID	UNIT STANDARD TITLE		
244374	Shunt and tow material cars by means of a diesel powered tractor		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the shunting and towing of material cars by means of a diesel-powered tractor.

SPECIFIC OUTCOME 2

Prepare to shunt and tow material cars by means of a diesel-powered tractor.

SPECIFIC OUTCOME 3

Shunt and tow material cars by means of a diesel-powered tractor.

SPECIFIC OUTCOME 4

Perform post-shunting and towing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Suppress dust in an underground mine using a water-bowzer.

SAQA US ID	UNIT STANDARD TITLE		
244373	Suppress dust in an underground mine using a water-bowzer.		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the suppression of dust by means of a water bowzer.

SPECIFIC OUTCOME 2

Prepare to suppress dust in an underground workplace by means of a water-bowzer.

SPECIFIC OUTCOME 3

Suppress dust in an underground workplace by means of a water-bowzer.

SPECIFIC OUTCOME 4

Perform post-suppression activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transfer material using a Rigid Body Rear Dumper in an underground mine***

SAQA US ID	UNIT STANDARD TITLE		
244371	Transfer material using a Rigid Body Rear Dumper in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the transfer of material by means of a rigid body rear dumper in an underground mine.

SPECIFIC OUTCOME 2

Prepare to transfer material with a rigid body rear dumper.

SPECIFIC OUTCOME 3

Transfer material with a rigid body rear dumper.

SPECIFIC OUTCOME 4

Perform post-transferring activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Support an underground working place by means of area coverage of the rock surface

SAQA US ID	UNIT STANDARD TITLE		
244370	Support an underground working place by means of area coverage of the rock surface		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	8

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to supporting an underground working place by means of rock surface covering.

SPECIFIC OUTCOME 2

Prepare to support an underground working place by means of rock surface covering.

SPECIFIC OUTCOME 3

Support an underground working place by means of rock surface covering.

SPECIFIC OUTCOME 4

Perform post-supporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Break big rocks by means of drilling and blasting with a secondary breaker***

SAQA US ID	UNIT STANDARD TITLE		
244369	Break big rocks by means of drilling and blasting with a secondary breaker		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	7

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.

SPECIFIC OUTCOME 4

Perform post-breaking activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Determine velocity of air in a workplace by means of the tape method and take appropriate action

SAQA US ID	UNIT STANDARD TITLE		
244368	Determine velocity of air in a workplace by means of the tape method and take appropriate action		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	1

SPECIFIC OUTCOME 1

Describe the specified requirements pertaining to determining the velocity of air by means of the tape method.

SPECIFIC OUTCOME 2

Prepare to determine velocity.

SPECIFIC OUTCOME 3

Determine and record velocity of air.

SPECIFIC OUTCOME 4

Perform post-measurement activities and take appropriate action.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Install a straining wire cable support system***

SAQA US ID	UNIT STANDARD TITLE		
244367	Install a straining wire cable support system		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the installation of a straining wire cable support system.

SPECIFIC OUTCOME 2

Prepare to install a straining wire cable support system.

SPECIFIC OUTCOME 3

Install the straining wire cable support system.

SPECIFIC OUTCOME 4

Perform reporting and housekeeping duties.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Remove broken rock by means of a suction unit

SAQA US ID	UNIT STANDARD TITLE		
244366	Remove broken rock by means of a suction unit		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to the removal of broken rock by means of a suction unit.

SPECIFIC OUTCOME 2

Prepare to remove broken rock by means of a suction unit.

SPECIFIC OUTCOME 3

Remove broken rock by means of a suction unit.

SPECIFIC OUTCOME 4

Perform post-removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Lift and move material and equipment by means of a forklift***

SAQA US ID	UNIT STANDARD TITLE		
244365	Lift and move material and equipment by means of a forklift		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to lifting, securing, transferring and positioning loads.

SPECIFIC OUTCOME 2

Prepare for lifting, securing, transferring and positioning of loads.

SPECIFIC OUTCOME 3

Operate the forklift.

SPECIFIC OUTCOME 4

Perform post-lifting, securing, transferring and positioning activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Remove an accumulation of water from an ore pass

SAQA US ID	UNIT STANDARD TITLE		
244364	Remove an accumulation of water from an ore pass		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	1

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the removal of an accumulation of water from an orepass.

SPECIFIC OUTCOME 2

Prepare to remove an accumulation of water from an orepass.

SPECIFIC OUTCOME 3

Remove an accumulation of water from an orepass.

SPECIFIC OUTCOME 4

Perform post-removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Install a mono rope system***

SAQA US ID	UNIT STANDARD TITLE		
244363	Install a mono rope system		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation of a mono rope system.

SPECIFIC OUTCOME 2

Prepare to install the mono rope system.

SPECIFIC OUTCOME 3

Install the mono rope system.

SPECIFIC OUTCOME 4

Perform post-installation activities.


SOUTH AFRICAN QUALIFICATIONS AUTHORITY
UNIT STANDARD:

Transport persons, material and equipment by means of a diesel powered quadro cycle in an underground mine

SAQA US ID	UNIT STANDARD TITLE		
244362	Transport persons, material and equipment by means of a diesel powered quadro cycle in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the transportation of persons, material and equipment by means of a diesel powered quadro cycle.

SPECIFIC OUTCOME 2

Prepare to transport persons, material and equipment.

SPECIFIC OUTCOME 3

Transport persons, material and equipment.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:**Mark service holes underground**

SAQA US ID	UNIT STANDARD TITLE		
244361	Mark service holes underground		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to the marking of service holes.

SPECIFIC OUTCOME 2

Prepare to mark service holes.

SPECIFIC OUTCOME 3

Mark service holes.

SPECIFIC OUTCOME 4

Perform post-marking activities.


SOUTH AFRICAN QUALIFICATIONS AUTHORITY
UNIT STANDARD:
Remove broken rock by means of a scraper winch in an underground workplace

SAQA US ID	UNIT STANDARD TITLE		
244360	Remove broken rock by means of a scraper winch in an underground workplace		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the removal of broken rock by means of a scraper winch.

SPECIFIC OUTCOME 2

Prepare to remove broken rock.

SPECIFIC OUTCOME 3

Remove broken rock.

SPECIFIC OUTCOME 4

Perform post-removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport rock, material and equipment by means of rolling stock***

SAQA US ID	UNIT STANDARD TITLE		
244359	Transport rock, material and equipment by means of rolling stock		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the transporting of rock, material and equipment by means of rolling stock.

SPECIFIC OUTCOME 2

Prepare to transport rock, material and equipment.

SPECIFIC OUTCOME 3

Transport rock, material and equipment.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Support an underground workplace by means of a hydraulic roof bolter

SAQA US ID	UNIT STANDARD TITLE		
244372	Support an underground workplace by means of a hydraulic roof bolter		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

SPECIFIC OUTCOME 1

Explain the drilling and installation of support using a hydraulic roof bolter.

SPECIFIC OUTCOME 2

Prepare to drill holes and install support.

SPECIFIC OUTCOME 3

Drill holes and install support.

SPECIFIC OUTCOME 4

Perform post-drilling and installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport explosives and accessories by means of rolling stock***

SAQA US ID	UNIT STANDARD TITLE		
244393	Transport explosives and accessories by means of rolling stock		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	2

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the transporting of explosives and accessories by means of rolling stock.

SPECIFIC OUTCOME 2

Prepare to transport explosives and accessories.

SPECIFIC OUTCOME 3

Transport explosives and accessories.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Load a battery onto and remove it from a locomotive

SAQA US ID	UNIT STANDARD TITLE		
244382	Load a battery onto and remove it from a locomotive		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	1

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the loading and removing of a battery onto and from a locomotive.

SPECIFIC OUTCOME 2

Prepare to load and remove the battery.

SPECIFIC OUTCOME 3

Load and remove the battery.

SPECIFIC OUTCOME 4

Perform post-loading and removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Install a set of rails in an underground workplace***

SAQA US ID		UNIT STANDARD TITLE	
244398		Install a set of rails in an underground workplace	
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain specified requirements regarding the installation of a set of rails.

SPECIFIC OUTCOME 2

Prepare to install a set of rails.

SPECIFIC OUTCOME 3

Install a set of rails.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Transport persons, material and equipment by means of a fixed saddle utility vehicle in an underground mine

SAQA US ID	UNIT STANDARD TITLE		
244395	Transport persons, material and equipment by means of a fixed saddle utility vehicle in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

The specified requirements pertaining to the transportation of persons, material and equipment by means of a fixed saddle utility vehicle are explained.

SPECIFIC OUTCOME 2

Prepare to transport persons, material and equipment.

SPECIFIC OUTCOME 3

Transport persons, material and equipment.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Remove an obstruction from a draw point with a water canon***

SAQA US ID	UNIT STANDARD TITLE		
244394	Remove an obstruction from a draw point with a water canon		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to the removal of an obstruction from a draw point with a water canon.

SPECIFIC OUTCOME 2

Prepare to remove an obstruction from a draw point with a water canon.

SPECIFIC OUTCOME 3

Remove an obstruction from a draw point with a water canon.

SPECIFIC OUTCOME 4

Perform post-removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Re-rail a track bound unit

SAQA US ID		UNIT STANDARD TITLE	
244388		Re-rail a track bound unit	
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the re-railing of a track bound unit.

SPECIFIC OUTCOME 2

Prepare to re-rail the unit.

SPECIFIC OUTCOME 3

Re-rail the unit.

SPECIFIC OUTCOME 4

Perform post re-railing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Break big rocks with a secondary breaker***

SAQA US ID	UNIT STANDARD TITLE		
244387	Break big rocks with a secondary breaker		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to breaking big rocks with a secondary breaker.

SPECIFIC OUTCOME 2

Prepare to break big rocks with a secondary breaker.

SPECIFIC OUTCOME 3

Break big rocks with a secondary breaker.

SPECIFIC OUTCOME 4

Perform post-breaking activities.


SOUTH AFRICAN QUALIFICATIONS AUTHORITY
UNIT STANDARD:

Install and remove ventilation columns, service columns and accessories by utilizing a scissor lift

SAQA US ID	UNIT STANDARD TITLE		
244390	Install and remove ventilation columns, service columns and accessories by utilizing a scissor lift		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the installation and removal of ventilation columns, service columns and accessories by utilizing a scissor lift.

SPECIFIC OUTCOME 2

Prepare to install and remove ventilation columns, service columns and accessories by utilizing a scissor lift.

SPECIFIC OUTCOME 3

Install and remove ventilation columns, service columns and accessories by utilizing a scissor lift.

SPECIFIC OUTCOME 4

Perform post-installation and removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Treat and remove misfires***

SAQA US ID	UNIT STANDARD TITLE		
244389	Treat and remove misfires		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the treatment and removal of misfires.

SPECIFIC OUTCOME 2

Prepare to treat and remove misfires.

SPECIFIC OUTCOME 3

Treat and remove misfires.

SPECIFIC OUTCOME 4

Perform post-treatment and removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Operate a locomotive underground

SAQA US ID	UNIT STANDARD TITLE		
244392	Operate a locomotive underground		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the operating of a battery locomotive.

SPECIFIC OUTCOME 2

Prepare to operate the battery locomotive.

SPECIFIC OUTCOME 3

Operate the locomotive.

SPECIFIC OUTCOME 4

Perform post-operating activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Support an underground working place by means of backfilling***

SAQA US ID	UNIT STANDARD TITLE		
244391	Support an underground working place by means of backfilling		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to backfilling.

SPECIFIC OUTCOME 2

Prepare to backfill.

SPECIFIC OUTCOME 3

Backfill area.

SPECIFIC OUTCOME 4

Perform post-placement activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Transport material and equipment by means of a mono rope system

SAQA US ID	UNIT STANDARD TITLE		
244386	Transport material and equipment by means of a mono rope system		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain specified requirements regarding the transportation of material and equipment with a mono rope system.

SPECIFIC OUTCOME 2

Prepare to transport material and equipment with a mono rope system.

SPECIFIC OUTCOME 3

Transport material and equipment with a mono rope system.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Support an underground working place by means of elongated support units that are hydraulically stressed

SAQA US ID	UNIT STANDARD TITLE		
244385	Support an underground working place by means of elongated support units that are hydraulically stressed		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the supporting of an underground working place by means of elongated support units that are hydraulically stressed.

SPECIFIC OUTCOME 2

Prepare to support an underground working place by means of elongated support units that are hydraulically stressed.

SPECIFIC OUTCOME 3

Support an underground working place by means of elongated support units that are hydraulically stressed.

SPECIFIC OUTCOME 4

Perform post-supporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Install a rail turn-out in an underground workplace

SAQA US ID	UNIT STANDARD TITLE		
244379	Install a rail turn-out in an underground workplace		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain specified requirements regarding the installation of a rail turn-out.

SPECIFIC OUTCOME 2

Prepare to install a rail turn-out.

SPECIFIC OUTCOME 3

Install a rail turn-out.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Take charge of and operate a remote controlled vehicle underground***

SAQA US ID	UNIT STANDARD TITLE		
244397	Take charge of and operate a remote controlled vehicle underground		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	4

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to taking charge of and operating a remote controlled vehicle underground.

SPECIFIC OUTCOME 2

Prepare to take charge of a remote controlled vehicle underground.

SPECIFIC OUTCOME 3

Take charge of and operate a remote controlled vehicle underground.

SPECIFIC OUTCOME 4

Perform end of shift duties.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Drill holes by means of a stope drill-rig

SAQA US ID	UNIT STANDARD TITLE		
244381	Drill holes by means of a stope drill-rig		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain the specified requirements regarding drilling holes with a stope drill-rig.

SPECIFIC OUTCOME 2

Prepare to drill holes with a stope drill-rig.

SPECIFIC OUTCOME 3

Drill holes with a stope drill-rig.

SPECIFIC OUTCOME 4

Perform post-drilling activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Support an underground working place by means of temporary support units***

SAQA US ID	UNIT STANDARD TITLE		
244380	Support an underground working place by means of temporary support units		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the installation of temporary support units.

SPECIFIC OUTCOME 2

Prepare to install temporary support units.

SPECIFIC OUTCOME 3

Install temporary support units.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Time a blasting round or circuit on a face where shock tubes are used

SAQA US ID	UNIT STANDARD TITLE		
244384	Time a blasting round or circuit on a face where shock tubes are used		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the timing of a blasting round or circuit.

SPECIFIC OUTCOME 2

Prepare to time a blasting round or circuit.

SPECIFIC OUTCOME 3

Time a blasting round or circuit.

SPECIFIC OUTCOME 4

Perform post-timing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:**Conduct continuous hazard identification and risk assessment within a workplace**

SAQA US ID	UNIT STANDARD TITLE		
244383	Conduct continuous hazard identification and risk assessment within a workplace		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to continuous hazard identification and risk assessment.

SPECIFIC OUTCOME 2

Prepare for hazard identification.

SPECIFIC OUTCOME 3

Identify hazards and assess risks.

SPECIFIC OUTCOME 4

Initiate remedial and follow-up action.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Transport and load explosives into blast holes using a mixer-placer truck in an underground mine

SAQA US ID	UNIT STANDARD TITLE		
244396	Transport and load explosives into blast holes using a mixer-placer truck in an underground mine		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

SPECIFIC OUTCOME 1

Explain the transportation and loading of explosives using a mixer-placer truck.

SPECIFIC OUTCOME 2

Prepare for transporting and loading of explosives.

SPECIFIC OUTCOME 3

Transport and load explosives.

SPECIFIC OUTCOME 4

Perform post-transporting and loading activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:**Construct a concrete winch bed**

SAQA US ID	UNIT STANDARD TITLE		
244413	Construct a concrete winch bed		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	1

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation of a concrete winch bed.

SPECIFIC OUTCOME 2

Prepare to construct a concrete winch bed.

SPECIFIC OUTCOME 3

Construct a concrete winch bed.

SPECIFIC OUTCOME 4

Perform post-construction activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Install a dust-allaying device

SAQA US ID	UNIT STANDARD TITLE		
244402	Install a dust-allaying device		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	1

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation of a dust-allaying device.

SPECIFIC OUTCOME 2

Prepare to install the dust-allaying device.

SPECIFIC OUTCOME 3

Install the dust-allaying device.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Assemble and maintain scraper cleaning equipment and rigging***

SAQA US ID	UNIT STANDARD TITLE		
244417	Assemble and maintain scraper cleaning equipment and rigging		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	7

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to performing scraper winch related activities.

SPECIFIC OUTCOME 2

Prepare to perform scraper winch related activities.

SPECIFIC OUTCOME 3

Perform scraper winch related activities.

SPECIFIC OUTCOME 4

Conclude scraper winch related activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Make safe a workplace by means of barring

SAQA US ID	UNIT STANDARD TITLE		
244416	Make safe a workplace by means of barring		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to the barring down of loose rocks.

SPECIFIC OUTCOME 2

Prepare to bar down loose rocks.

SPECIFIC OUTCOME 3

Bar down loose rocks.

SPECIFIC OUTCOME 4

Perform post-barring activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Drill holes underground by means of a hand-held rock drill***

SAQA US ID	UNIT STANDARD TITLE		
244415	Drill holes underground by means of a hand-held rock drill		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the drilling of holes.

SPECIFIC OUTCOME 2

Prepare for drilling.

SPECIFIC OUTCOME 3

Drill holes.

SPECIFIC OUTCOME 4

Perform post-drilling activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Bar and break big rocks with a mobile scaler

SAQA US ID	UNIT STANDARD TITLE		
244414	Bar and break big rocks with a mobile scaler		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to barring and breaking big rocks with a mobile scaler.

SPECIFIC OUTCOME 2

Prepare to bar and break big rocks with a mobile scaler.

SPECIFIC OUTCOME 3

Bar and break big rocks with a mobile scaler.

SPECIFIC OUTCOME 4

Perform post-barring and breaking activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

***Transport persons, material and equipment by means of a light delivery vehicle
(LDV) in an underground mine***

SAQA US ID	UNIT STANDARD TITLE		
244412	Transport persons, material and equipment by means of a light delivery vehicle (LDV) in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the transportation of persons, material and equipment by means of a light delivery vehicle.

SPECIFIC OUTCOME 2

Prepare to transport persons, material and equipment with an L.D.V.

SPECIFIC OUTCOME 3

Transport persons, material and equipment with an L.D.V.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Construct an underground ladder-way

SAQA US ID	UNIT STANDARD TITLE		
244411	Construct an underground ladder-way		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation of an underground ladder-way.

SPECIFIC OUTCOME 2

Prepare to construct an underground ladder-way.

SPECIFIC OUTCOME 3

Construct an underground ladder-way.

SPECIFIC OUTCOME 4

Perform post-construction activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:**Construct and install platform**

SAQA US ID	UNIT STANDARD TITLE		
244410	Construct and install platform		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	1

SPECIFIC OUTCOME 1

Explain specified requirements regarding the construction and installation of a platform.

SPECIFIC OUTCOME 2

Prepare to construct and install a platform.

SPECIFIC OUTCOME 3

Construct and install the platform.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Doze material using a Tyre Dozer in an underground mine***

SAQA US ID	UNIT STANDARD TITLE		
244409	Doze material using a Tyre Dozer in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

SPECIFIC OUTCOME 1

Explain material dozing using a tyre dozer in an underground mine.

SPECIFIC OUTCOME 2

Prepare to doze material using a tyre dozer.

SPECIFIC OUTCOME 3

Doze material using a Tyre dozer.

SPECIFIC OUTCOME 4

Perform post-dozing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Install and remove pipes and accessories***

SAQA US ID	UNIT STANDARD TITLE		
244408	Install and remove pipes and accessories		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain specified requirements regarding the installation and removal of pipes and accessories.

SPECIFIC OUTCOME 2

Prepare to install and remove pipes and accessories.

SPECIFIC OUTCOME 3

Install and remove pipes and accessories.

SPECIFIC OUTCOME 4

Perform post-installation and removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Move material by means of a mobilift in an underground mine***

SAQA US ID	UNIT STANDARD TITLE		
244406	Move material by means of a mobilift in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

SPECIFIC OUTCOME 1

Explain the moving of material by means of a mobilift in an underground mine.

SPECIFIC OUTCOME 2

Prepare to move material by means of a mobilift.

SPECIFIC OUTCOME 3

Move material using a mobilift.

SPECIFIC OUTCOME 4

Prepare the mobilift for the following shift.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Determine environment thermal conditions in an underground workplace by means of a whirling hygrometer and take appropriate action

SAQA US ID	UNIT STANDARD TITLE		
244405	Determine environment thermal conditions in an underground workplace by means of a whirling hygrometer and take appropriate action		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Describe the specified requirements pertaining to measuring thermal conditions by means of a whirling hygrometer in an underground workplace.

SPECIFIC OUTCOME 2

Prepare to determine thermal conditions by means of a whirling hygrometer in an underground workplace.

SPECIFIC OUTCOME 3

Determine thermal conditions by means of a whirling hygrometer, record the results and take appropriate action.

SPECIFIC OUTCOME 4

Perform post measurement activities pertaining to the determining of thermal conditions by means of a whirling hygrometer.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Operate a monorail system

SAQA US ID	UNIT STANDARD TITLE		
244404	Operate a monorail system		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the operation of a monorail system.

SPECIFIC OUTCOME 2

Prepare to operate the monorail system.

SPECIFIC OUTCOME 3

Operate the monorail system.

SPECIFIC OUTCOME 4

Perform post-operating activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Charge shot holes with propellant based cartridges and accessories***

SAQA US ID	UNIT STANDARD TITLE		
244401	Charge shot holes with propellant based cartridges and accessories		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the charging of shot holes with propellant based cartridges and accessories.

SPECIFIC OUTCOME 2

Prepare to charge holes with propellant based cartridges and accessories.

SPECIFIC OUTCOME 3

Charge holes with propellant based cartridges and accessories.

SPECIFIC OUTCOME 4

Perform post-charging activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Describe the basic environmental factors of ventilating an underground working place to ensure a safe and healthy working environment

SAQA US ID	UNIT STANDARD TITLE		
244400	Describe the basic environmental factors of ventilating an underground working place to ensure a safe and healthy working environment		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Outline the necessity for ventilating a working place.

SPECIFIC OUTCOME 2

Describe the methods of ventilating a working place.

SPECIFIC OUTCOME 3

Describe the basic effects on workers and action to be taken in terms of exposure to hazardous environmental conditions.

SPECIFIC OUTCOME 4

Describe the methods of controlling ventilation in a working place and sections thereof.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Transport broken rock by means of a diesel-powered dump truck in an underground mine

SAQA US ID	UNIT STANDARD TITLE		
244399	Transport broken rock by means of a diesel-powered dump truck in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the transfer of broken rock by means of a diesel powered dump truck.

SPECIFIC OUTCOME 2

Prepare to transfer broken rock with a diesel-powered dump truck.

SPECIFIC OUTCOME 3

Transfer broken rock with a diesel-powered dump truck.

SPECIFIC OUTCOME 4

Perform post-transferring activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Support an underground working place by means of a concrete-spraying utility vehicle

SAQA US ID	UNIT STANDARD TITLE		
244418	Support an underground working place by means of a concrete-spraying utility vehicle		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

SPECIFIC OUTCOME 1

Explain supporting operations by means of concrete spray.

SPECIFIC OUTCOME 2

Prepare to support working place.

SPECIFIC OUTCOME 3

Spray concrete by means of utility vehicle.

SPECIFIC OUTCOME 4

Close down operations and prepare for the following shift.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Lift and move a load using mechanical lifting equipment***

SAQA US ID	UNIT STANDARD TITLE		
244407	Lift and move a load using mechanical lifting equipment		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	7

SPECIFIC OUTCOME 1

Explain the factors critical to lifting and moving loads.

SPECIFIC OUTCOME 2

Prepare to lift and move a load.

SPECIFIC OUTCOME 3

Lift and move the load.

SPECIFIC OUTCOME 4

Make the load available for production purposes.


SOUTH AFRICAN QUALIFICATIONS AUTHORITY
UNIT STANDARD:
Analyse and solve problems

SAQA US ID	UNIT STANDARD TITLE		
244403	Analyse and solve problems		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	4

SPECIFIC OUTCOME 1

Identify the problem.

SPECIFIC OUTCOME 2

Analyse the problem.

SPECIFIC OUTCOME 3

Select problem-solving techniques.

SPECIFIC OUTCOME 4

Apply problem-solving techniques.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

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

SAQA US ID	UNIT STANDARD TITLE		
244431	Demonstrate an understanding of typical basic underground hard rock mining services, processes and layouts		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
ABET Level 4	Regular	Level 1	4

SPECIFIC OUTCOME 1

Demonstrate understanding of basic mining processes and services.

SPECIFIC OUTCOME 2

Demonstrate understanding of basic mining layouts.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport persons by means of a locomotive and carriage***

SAQA US ID	UNIT STANDARD TITLE		
244442	Transport persons by means of a locomotive and carriage		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	1

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the transporting of persons by means of a locomotive and carriage.

SPECIFIC OUTCOME 2

Prepare to transport persons.

SPECIFIC OUTCOME 3

Transport persons.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Take charge of and drive a non-articulating vehicle underground***

SAQA US ID	UNIT STANDARD TITLE		
244441	Take charge of and drive a non-articulating vehicle underground		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain taking charge of and driving a non-articulating vehicle underground.

SPECIFIC OUTCOME 2

Prepare to take charge of and drive a non-articulating vehicle underground.

SPECIFIC OUTCOME 3

Take charge of and drive a non-articulating vehicle underground.

SPECIFIC OUTCOME 4

Perform post-driving activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Transport explosives and accessories by means of a Self Propelled mobile machine

SAQA US ID	UNIT STANDARD TITLE		
244440	Transport explosives and accessories by means of a Self Propelled mobile machine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the transportation of explosives and accessories by means of a self-propelled mobile machine.

SPECIFIC OUTCOME 2

Prepare to transport explosives and accessories using a self-propelled mobile machine.

SPECIFIC OUTCOME 3

Transport explosives and accessories.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Support an underground workplace with support straps

SAQA US ID	UNIT STANDARD TITLE		
244439	Support an underground workplace with support straps		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

SPECIFIC OUTCOME 1

Explain the supporting of an underground workplace with support straps.

SPECIFIC OUTCOME 2

Prepare to support an underground workplace with support str

SPECIFIC OUTCOME 3

Support an underground workplace with support straps.

SPECIFIC OUTCOME 4

Perform post-support activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Install and remove ventilation columns and accessories***

SAQA US ID	UNIT STANDARD TITLE		
244434	Install and remove ventilation columns and accessories		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation and removal of ventilation columns and accessories.

SPECIFIC OUTCOME 2

Prepare to install and remove a ventilation column and accessories.

SPECIFIC OUTCOME 3

Install and remove a ventilation column and accessories.

SPECIFIC OUTCOME 4

Perform post-installation and -removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Test for flammable gas in a mining environment by means of a hand held electronic instrument and take appropriate action

SAQA US ID	UNIT STANDARD TITLE		
244433	Test for flammable gas in a mining environment by means of a hand held electronic instrument and take appropriate action		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Describe the specified requirements pertaining to the testing for flammable gas.

SPECIFIC OUTCOME 2

Prepare to test.

SPECIFIC OUTCOME 3

Test for flammable gas and take appropriate action.

SPECIFIC OUTCOME 4

Perform post-testing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Measure, plot and interpret area measurements within an underground workplace

SAQA US ID	UNIT STANDARD TITLE		
244432	Measure, plot and interpret area measurements within an underground workplace		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the measuring, plotting and interpreting of area measurements within an underground workplace.

SPECIFIC OUTCOME 2

Prepare to measure, plot and interpret area measurements within an underground workplace.

SPECIFIC OUTCOME 3

Measure, plot and interpret area measurements within an underground workplace.

SPECIFIC OUTCOME 4

Perform post-measurement and plotting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Install a stope grizzly

SAQA US ID	UNIT STANDARD TITLE		
244430	Install a stope grizzly		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation of a stope grizzly.

SPECIFIC OUTCOME 2

Prepare to install the stope grizzly.

SPECIFIC OUTCOME 3

Install the stope grizzly.

SPECIFIC OUTCOME 4

Perform post-installation activities.


SOUTH AFRICAN QUALIFICATIONS AUTHORITY
UNIT STANDARD:

***Demonstrate knowledge and understanding of blasting products and their usage
in an underground hard rock environment***

SAQA US ID	UNIT STANDARD TITLE		
244429	Demonstrate knowledge and understanding of blasting products and their usage in an underground hard rock environment		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the characteristics of explosives and initiation systems.

SPECIFIC OUTCOME 2

Explain the safe handling and characteristics of blasting products and systems.

SPECIFIC OUTCOME 3

Explain the application of blasting products and systems.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Remove broken rock by means of a high-pressure water jet unit***

SAQA US ID	UNIT STANDARD TITLE		
244427	Remove broken rock by means of a high-pressure water jet unit		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to the removal of broken rock with a high-pressure water jet unit.

SPECIFIC OUTCOME 2

Prepare to remove broken rock with a high-pressure water jet unit.

SPECIFIC OUTCOME 3

Remove broken rock with a high-pressure water jet unit.

SPECIFIC OUTCOME 4

Perform post-removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Install a stope box front and chute

SAQA US ID	UNIT STANDARD TITLE		
244426	Install a stope box front and chute		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

Explain specified requirements regarding the installation of a stope box front and chute.

SPECIFIC OUTCOME 2

Prepare to install a stope box front and chute.

SPECIFIC OUTCOME 3

Install the stope box front and chute.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Install underground workplace ventilation controls***

SAQA US ID	UNIT STANDARD TITLE		
244425	Install underground workplace ventilation controls		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Describe the specified requirements regarding the installation of ventilation controls according to a specific layout.

SPECIFIC OUTCOME 2

Prepare to install ventilation controls.

SPECIFIC OUTCOME 3

Install ventilation controls.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Time a blasting round or circuit on a face where electric/electronic delay detonators are used

SAQA US ID	UNIT STANDARD TITLE		
244424	Time a blasting round or circuit on a face where electric/electronic delay detonators are used		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the timing of a blasting round or circuit.

SPECIFIC OUTCOME 2

Prepare to time a blasting round or circuit.

SPECIFIC OUTCOME 3

Time a blasting round or circuit.

SPECIFIC OUTCOME 4

Perform post-timing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Time a blasting round or circuit on a face where conventional fuses are used

SAQA US ID	UNIT STANDARD TITLE		
244421	Time a blasting round or circuit on a face where conventional fuses are used		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the timing of a blasting round or circuit.

SPECIFIC OUTCOME 2

Prepare to time a blasting round or circuit.

SPECIFIC OUTCOME 3

Time a blasting round or circuit.

SPECIFIC OUTCOME 4

Perform post-timing activities.


SOUTH AFRICAN QUALIFICATIONS AUTHORITY
UNIT STANDARD:
Support an underground working place by means of packs

SAQA US ID	UNIT STANDARD TITLE		
244420	Support an underground working place by means of packs		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the installation of packs.

SPECIFIC OUTCOME 2

Prepare to install packs.

SPECIFIC OUTCOME 3

Install packs.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:**Assemble Oxy-acetylene equipment**

SAQA US ID	UNIT STANDARD TITLE		
244419	Assemble Oxy-acetylene equipment		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	1

SPECIFIC OUTCOME 1

Explain the factors critical to assembling Oxy-acetylene equipment.

SPECIFIC OUTCOME 2

Prepare to assemble the Oxy-acetylene equipment.

SPECIFIC OUTCOME 3

Assemble the Oxy-acetylene equipment.

SPECIFIC OUTCOME 4

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



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Replace an electric motor

SAQA US ID	UNIT STANDARD TITLE		
244428	Replace an electric motor		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

SPECIFIC OUTCOME 1

Explain the factors critical to replacing an electric motor.

SPECIFIC OUTCOME 2

Prepare to replace an electric motor.

SPECIFIC OUTCOME 3

Replace the motor.

SPECIFIC OUTCOME 4

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



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Grade roadways by means of a motor grader in an underground mine***

SAQA US ID	UNIT STANDARD TITLE		
244423	Grade roadways by means of a motor grader in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

SPECIFIC OUTCOME 1

Explain the grading of roadways with a Self Propelled Grader.

SPECIFIC OUTCOME 2

Prepare for grading of roadways with a Self Propelled Grader.

SPECIFIC OUTCOME 3

Grade roadways with a Self Propelled Grader.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate knowledge of the most common harmful gases and vapours***

SAQA US ID	UNIT STANDARD TITLE		
244422	Demonstrate knowledge of the most common harmful gases and vapours		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	4

SPECIFIC OUTCOME 1

Explain the ceiling limits and effects of the gases and vapours.

SPECIFIC OUTCOME 2

Explain the various types of detection and measurement methodologies for the gases and vapours and the detection instruments' operation.

SPECIFIC OUTCOME 3

Explain the characteristics, sources, occurrence of the gases and vapours.

SPECIFIC OUTCOME 4

Explain the action to be taken and consequences of not taking action if the gases and vapours are encountered.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Extinguish a fire by means of a portable fire extinguisher***

SAQA US ID	UNIT STANDARD TITLE		
244448	Extinguish a fire by means of a portable fire extinguisher		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	1

SPECIFIC OUTCOME 1

Explain the critical factors pertaining to the extinguishing of a fire by means of a portable fire extinguisher.

SPECIFIC OUTCOME 2

Prepare to extinguish the fire.

SPECIFIC OUTCOME 3

Extinguish the fire.

SPECIFIC OUTCOME 4

Perform post-extinguishing activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Extend tracks by means of jump-sets and sliding rails

SAQA US ID	UNIT STANDARD TITLE		
244447	Extend tracks by means of jump-sets and sliding rails		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	2

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation of jump-sets and sliding rails.

SPECIFIC OUTCOME 2

Prepare to install jump-sets and sliding rails.

SPECIFIC OUTCOME 3

Install jump-sets and sliding rails.

SPECIFIC OUTCOME 4

Perform post-installation activities.


SOUTH AFRICAN QUALIFICATIONS AUTHORITY
UNIT STANDARD:
Install a blocking barricade

SAQA US ID	UNIT STANDARD TITLE		
244446	Install a blocking barricade		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	2

SPECIFIC OUTCOME 1

Explain the specified requirements regarding the installation of a blocking barricade.

SPECIFIC OUTCOME 2

Prepare to install the blocking barricade.

SPECIFIC OUTCOME 3

Install the blocking barricade.

SPECIFIC OUTCOME 4

Perform post-installation activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate an understanding of the identification of and dealing with rock strata conditions

SAQA US ID	UNIT STANDARD TITLE		
244453	Demonstrate an understanding of the identification of and dealing with rock strata conditions		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

Describe the specified requirements for rock strata control pertaining to geological conditions in an underground working place.

SPECIFIC OUTCOME 2

Describe the specified requirements for rock strata control pertaining to mining induced ground conditions in an underground working place.

SPECIFIC OUTCOME 3

Describe the significant risks associated with geological and mining induced conditions in an underground working place.

SPECIFIC OUTCOME 4

Describe the specified requirements for rock strata control pertaining to support and mining spans in an underground working place.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport persons, material and equipment by means of an interchangeable-saddle utility vehicle in an underground mine***

SAQA US ID	UNIT STANDARD TITLE		
244452	Transport persons, material and equipment by means of an interchangeable-saddle utility vehicle in an underground mine		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	2

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the transporting of persons, material and equipment by means of an interchangeable-saddle utility vehicle in an underground mine.

SPECIFIC OUTCOME 2

Prepare to transport persons, material and equipment by means of an interchangeable-saddle utility vehicle in an underground mine.

SPECIFIC OUTCOME 3

Transport persons, material and equipment by means of an interchangeable-saddle utility vehicle in an underground mine.

SPECIFIC OUTCOME 4

Perform post-transporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Install an electrical cable

SAQA US ID	UNIT STANDARD TITLE		
244451	Install an electrical cable		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

SPECIFIC OUTCOME 1

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

SPECIFIC OUTCOME 2

Prepare to install the cable.

SPECIFIC OUTCOME 3

Install the cable.

SPECIFIC OUTCOME 4

Perform reporting and housekeeping duties.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Support an underground working place by means of anchors placed into drilled holes

SAQA US ID	UNIT STANDARD TITLE		
244450	Support an underground working place by means of anchors placed into drilled holes		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the supporting of an underground working place by means of anchors placed into drilled holes.

SPECIFIC OUTCOME 2

Prepare to support an underground working place by means of anchors placed into drilled holes.

SPECIFIC OUTCOME 3

Support an underground working place by means of anchors placed into drilled holes.

SPECIFIC OUTCOME 4

Perform post-supporting activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Follow basic health and safety practices underground

SAQA US ID	UNIT STANDARD TITLE		
244445	Follow basic health and safety practices underground		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to basic occupational health and safety practices.

SPECIFIC OUTCOME 2

Explain specified requirements pertaining to travelling underground.

SPECIFIC OUTCOME 3

Perform basic occupational health and safety practices.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Remove broken rock by means of a track-bound mechanical loader***

SAQA US ID	UNIT STANDARD TITLE		
244444	Remove broken rock by means of a track-bound mechanical loader		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to the removal of rock by means of a track-bound mechanical loader.

SPECIFIC OUTCOME 2

Prepare to remove broken rock with a loader.

SPECIFIC OUTCOME 3

Remove broken rock with a loader.

SPECIFIC OUTCOME 4

Perform post-removal activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Charge shot holes with primed explosives

SAQA US ID	UNIT STANDARD TITLE		
244443	Charge shot holes with primed explosives		
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

SPECIFIC OUTCOME 1

Explain specified requirements pertaining to the charging of shot holes with explosives and accessories.

SPECIFIC OUTCOME 2

Prepare to charge holes with explosives and accessories.

SPECIFIC OUTCOME 3

Charge holes with explosives and accessories.

SPECIFIC OUTCOME 4

Perform post-charging activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Plan, organise, lead and control activities***

SAQA US ID	UNIT STANDARD TITLE		
244449	Plan, organise, lead and control activities		
ORIGINATOR			PROVIDER
SGB Mining and Minerals			
FIELD			SUBFIELD
6 - Manufacturing, Engineering and Technology			Fabrication and Extraction
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	10

SPECIFIC OUTCOME 1

Plan activities.

SPECIFIC OUTCOME 2

Organise activities.

SPECIFIC OUTCOME 3

Lead activities.

SPECIFIC OUTCOME 4

Control activities.