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GOVERNMENT NOTICES

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

No. 820

8 August 2008



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

Engineering

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.saqqa.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 8 September 2008**. All correspondence should be marked **Standards Setting – Engineering** and addressed to

The Director: Standards Setting and Development
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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Certificate: Energy Regulation

SAQA QUAL ID		QUALIFICATION TITLE	
63209		National Certificate: Energy Regulation	
ORIGINATOR		PROVIDER	
SGB Engineering			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	6 - Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	120	Level 5	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

This Qualification will provide broad knowledge, skills and values needed for learners who wish to pursue a career in the energy regulation field. Learners obtaining this qualification will be recognized on a national level for performing specific regulatory activities related to petroleum, piped gas and electricity industries. Learners achieving this qualification will be deployed in the country's energy regulation body.

The qualification will ensure professionalism, proficiency and excellence for employees in the regulatory environment that will promote pride, self worth and enhance their morale in the workplace. This qualification will enable the field to train the learners on an NQF registered qualification which will be manifested in the operational competence of the employee in terms of safe, sound and efficient work practices within the regulatory environment.

The purpose of this qualification is to introduce the regulatory framework that entails energy regulation in South Africa for three areas namely, petroleum, piped gas and electricity. It will also promote the understanding and correct interpretation of the energy legislation.

A learner certified as competent in this qualification will be able to interpret and understand energy legislation and avoid common misunderstandings on how the legislation should be interpreted. The learner will also gain the necessary basic technical knowledge of the different energy industries in South Africa and how they need to be regulated.

It will also enable learners to:

- > Acquire a broad understanding of Energy Regulation in general and South African practices, in particular.
- > Understand the functions and purpose of regulatory bodies in South Africa.
- > Understand the legislation that impacts on Energy Regulation in South Africa (Gas Act, NERSA Act, Petroleum Pipelines Act, Gas Trade Agreements, Petroleum Pipeline Agreements, etc).
- > Understand the different types of licenses and the application process.

- > Understand economic regulation of network undertakings.
- > Understand pricing and tariffs of the regulated energy industries.
- > Have a broad knowledge of the agreements in place with other organizations and countries.

Rationale:

This qualification addresses the need in the energy regulation industry for individuals with knowledge, skills and understanding to correctly interpret and apply the regulatory legislation within the three energy regulatory areas currently existing in South Africa namely, petroleum, piped gas and electricity.

This qualification could assist with the achievement of national and industrial development policies and strategies to grow the pool of energy regulators and other related skills. People working in the energy regulation field require specialized technical knowledge and skills in order to meet the requirements of the constantly changing needs of the energy sector. Hence, the requirements for entrance to the qualification is for experienced learners that is already in possession of tertiary qualifications.

The qualification will also enhance the qualifying individuals technical skills and background for the petroleum, piped gas and electricity industries which in turn will enable the regulatory authority to carry out its function in each of these industries appropriately.

The qualification focuses on the skills, knowledge, values and attitudes required to ensure further progression.

The objective is to:

- > Promote the development of knowledge, skills and values that are required in a regulatory industry.
- > It ensures and addresses the potential of learners to apply their knowledge in the regulatory environment.
- > Provide opportunities for learners to specialize in different industries that fall under the regulatory legislation.
- > Ensure the quality of education and training is enhanced and is of a world class standard.

The qualification provides the learner with the necessary competencies to be employed in various roles within energy regulation. It will also enable the learner to pursue different career opportunities, as many of its competencies are generic enough to be applicable to other career paths and job roles.

The typical range of learners that will do this qualification will come from the chemical, electrical and mechanical technical engineering environment. The learners will participate in working areas related to the energy environment which entails regulation and legislation of the electricity, gas and petroleum industries.

Hence, the greater need in the country revolves around the regulation of energy with more learners being required to participate, particularly now that there is a global view on the energy crisis and the limited resources in energy generation worldwide, which is forcing a greater need for stricter energy regulatory processes. There will be tremendous benefits to be gained with the development of this energy regulation qualification for the learner, society, country and the economy of South Africa at large.

The qualification is structured in such a way that it gives learners exposure to a broad set of Core competencies in energy regulations while the Electives, which may be chosen from any of the three focal areas: piped gas, petroleum and electricity, to allow for competence in the learner's current work environment or chosen future work environment.

The Qualification supports the objectives of the National Qualifications Framework in the following ways:

- > It provides a learning opportunity at Level 5 in energy regulation. It also gives the opportunity to learners to obtain official recognition for knowledge and skills that they possess in topics related to energy regulation through the awarding of an officially recognized Qualification.
- > The inclusion of the specified Unit Standards in the Fundamental and Core Components contributes to the full personal development of each learner and the social and economic development of the nation at large.
- > Setting national standards of practice in this specific area of interest which could enhance social and economic development to the learners at large.
- > Building individual capacity in this specialized profession ensuring entry, progression and mobility into Life Long Learning in this specific learning field.
- > Enhancing of professional competence on a national level providing an avenue of upliftment for the previously disadvantaged into this professional discipline.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED IN PLACE

It is assumed that learners are already competent in:

- > Communication at NQF Level 4.
- > Mathematics at NQF Level 4.

Recognition of Prior Learning:

- > The provision that the Qualification may be obtained through the recognition of prior learning, facilitates access to an education, training and career path in Energy Regulation, and thus accelerates the redress of past unfair discrimination in education, training and employment opportunities.
- > This Qualification can be achieved wholly or in part through recognized RPL processes, which includes formal, informal and non-formal learning and work experience.
- > Evidence of prior learning must be assessed through formal RPL processes through recognized methods.
- > Any other evidence of prior learning should be assessed through formal RPL processes to recognize achievement thereof.
- > Learners submitting themselves for RPL should be thoroughly briefed prior to the assessment, and will be required to submit a Portfolio of Evidence in the prescribed format to be assessed for formal recognition. While this is primarily a workplace-based qualification, evidence from other areas of learning may be introduced if pertinent to any of the exit level outcomes.
- > The structure of this Unit Standard based Qualification makes the Recognition of Prior Learning (RPL) possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this energy regulation qualification.
- > Learners who already work in the energy regulatory industry who believe they possess the competencies to enable them meet all of the outcomes listed in the unit standards will be able to present themselves for assessment against the unit standards of their choice.

Access to the Qualification:

Access to the qualification is open bearing in mind learning assumed to be in place. It is, however, important that learners must have completed:

- > Have a relevant Diploma or Degree.
- > Have qualified as an Artisan in the appropriate field together with the minimum of an NQF Level 5/NQF Level 6 Technical Certificate.

QUALIFICATION RULES

To be awarded the Qualification, learners are required to obtain a minimum of 120 credits as detailed below.

All Fundamental Unit Standards totalling 26 credits are compulsory.

All the Core Unit Standards totalling 62 credits are compulsory.

Learners must select Elective Unit Standards totalling 32 credits.

The Elective Unit Standards listed in the qualification matrix are clustered into: Electrical (Hydro, Fossils and Steam), Piped Gas and Petroleum, all of which provide the learner with knowledge and skills which enables the learner to implement and manage a section/division/department within the Organization.

EXIT LEVEL OUTCOMES

1. Demonstrate an understanding of the implications of the various energy related Acts.
2. Demonstrate an understanding of the energy regulatory principles.
3. Analyze and interpret developments in energy regulation.
4. Analyze and interpret energy regulation and how it can be used by the Regulatory Authority to carry out its function.
 - > Range: Petroleum, Piped Gas and Electricity.
5. Demonstrate knowledge and application of infrastructure planning.
6. Demonstrate knowledge of tariff setting and third party access.

Critical Cross-Field Outcomes:

This qualification promotes, in particular, the following Critical Cross-Field Outcomes:

Identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made when:

- > Identifying potential risks in the workplace and implementing appropriate solutions to maintain a safe and secure working environment.
- > Identifying and resolving general client queries and deviations from regulatory requirements.
- > Identifying and pro-actively reporting on non-availability of resources and materials.

Working effectively with others as a member of a group, organisation and community during:

- > Directing appropriate colleagues to attend to client queries.
- > Understanding the impact of service delivery to the client.
- > Activities involving clients, co-workers and suppliers.

- > Communicating and receiving advice from supervisors.

Organising and managing oneself and one's activities responsibly and effectively when:

- > Identifying, minimizing and reporting potential occupational health and safety hazards and risks in the workplace.
- > Performing work activities in accordance with industry standard operating procedures.
- > Safety equipment and clothing is selected and prepared in accordance with legislative requirements.

Collecting, analysing, organising and critically evaluating information to better understand and explain by:

- > Carrying out written instructions issued by the clients and supervisors, correctly and efficiently.
- > Interpreting and recording correct client contact details.

Communicating effectively using visual, mathematical and/or language skills in the modes of oral and/or written persuasion when:

- > Issuing clear verbal instructions to team members, other colleagues and clients.
- > Actively listening to feedback received from team members, other colleagues and clients.
- > Evaluating and reporting problem situations to team members, other colleagues and clients.

Using science and technology effectively and critically, showing responsibility towards the environment and health of others when:

- > Interpret various gauge settings, readings and recording the impact on the business.
- > Understanding and interpreting the various gauge reading equipment.

Demonstrating and understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation when:

- > Applying the inter-relatedness of the electricity, piped gas and petroleum manufacturing, distribution, storage and sale thereof.
- > Recognizing the inter-relatedness between the various business units within the organization.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

1. The impact of the energy related Acts in South Africa is identified and described.
2. The Energy related Acts are analysed in terms of their objectives.
3. A description is given of the objects and rationale for the energy related Acts.
4. A description is given of the relationship between the energy regulatory Acts and other related legislations.

Associated Assessment Criteria for Exit Level Outcome 2:

1. Describe the historical background to the development of the energy industry legislation and the areas of overlapping jurisdiction is explained.
2. The objectives and intentions of the licensing conditions is identified and explained.
> Range: Licencing conditions means but is not limited to; security of supply, competition, promotion of investment, public safety, and environmental issues.
3. The economic regulation principles embedded in the energy industry acts' knowledge component is identified, explained and understood.
4. The legal and other requirements that regulate the regulated body are described.

5. Explain the difference and hierarchy between an Act, Regulations, Rules, Charters and Codes.

Associated Assessment Criteria for Exit Level Outcome 3:

1. Evaluate developments in energy regulations locally and internationally in terms of Codes of Practice and Standards.
2. Analyze accepted deviations from Codes of Practice and Standards and how these would affect/influence the regulated industries.
3. Explain the key aspects of the most applicable National and International Codes of Practice and Standards.
4. Explain the rationale for the most used Codes of Practice and International Standards.
5. Explain the accepted performance levels of energy industries as experienced by its users and reasons for deviation from the accepted performance practice and standards.

Associated Assessment Criteria for Exit Level Outcome 4:

1. Describe the roles, functions and duties of the Regulatory Authority in terms of the different regulated industries.
2. Define the role of the International Regulatory Association and how this impacts on the local energy sector.
3. Demonstrate knowledge and understanding of alternative ways of organizing and regulating the different energy industries.
4. Demonstrate an understanding of tariff setting for each of the licensed and regulated industries.
5. Explore different ways to resolve disputes that arise in the energy industry due to regulatory requirements.

Associated Assessment Criteria for Exit Level Outcome 5:

1. Basic economic and technical analysis of an infrastructure investment project is performed in terms of the energy regulatory requirements.
2. The need to license a new project or to grow a new entrant into the industry is explained in terms of the energy regulatory requirements.
3. National energy demand and supply balance for each regulated industry is performed in terms of the energy regulatory requirements.
4. Preferred technology solutions for different energy demand and supply imbalance situations is selected in terms of the energy regulatory requirements.

Associated Assessment Criteria for Exit Level Outcome 6:

1. Rate structure is designed and evaluated in terms of the energy regulatory requirements.
2. Financial analysis of a tariff is completed in terms of the energy regulatory requirements.
3. Social, economic and environmental impacts of a tariff are evaluated in terms of the energy regulatory requirements.
4. A communication plan is developed in terms of the energy regulatory requirements.
- > Range: Public meeting; write a report on third party input.
5. An access pricing framework is developed in terms of the energy regulatory requirements.

Integrated Assessment;

The applied competence (practical, foundational and reflective competencies) of this qualification will be achieved if a learner is able to achieve the Exit Level Outcomes of the qualification as per the rules specified. Applicable Critical Cross-Field Outcomes must be assessed during any combination of practical, foundational and reflexive competencies

assessment methods and tools to determine the whole person development and integration of applied knowledge and skills.

Certain exit level outcomes are measurable and verifiable through assessment criteria assessed in one application. Applicable assessment tools to assess the foundational, reflective and practical competencies within the regulatory environment.

A detailed portfolio of evidence is required of the practical, foundational and reflective competencies of the learner. Assessors and moderators should develop and conduct integrated assessment by making use of a range of formative and summative methods.

Assessors should assess and give credit for the evidence of learning that has already been acquired (RPL) through any form of learning. Unit standards associated with this qualification must be used to assess Specific and Critical Cross-Field Outcomes.

During integrated assessment, the assessor should make use of formative and summative assessment methods and should assess combinations of practical, foundational and reflective competencies. Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, the qualification applies in an integrated assessment approach.

Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the unit standards should be integrated. Assessment of the fundamental unit standards should be conducted in conjunction with the core and elective unit standards where applicable.

A variety of methods must be used in assessment, and tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

Assessors and moderators should use a range of formative and summative assessment methods. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience. Assessment should ensure that all specific outcomes, embedded knowledge and critical cross-field outcomes are evaluated. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

Formative Assessment:

Assessment criteria for formative assessment will typically take place during training and serves to guide the learner towards full competence and is described in the various unit standards. Formative assessment takes place during the process of learning and assessors can use a range of appropriate assessment methods and tools or in any agreed-upon method of assessment of the knowledge required to perform the various competencies in a holistic manner. To be allowed access to the final qualifying assessment, a learner must show that he/she has reached a level of overall integrated competence.

The methods of assessment could include but not limited to the following:

- > On-the-job Observations.
- > Role-play and/or Simulations.
- > Knowledge tests, exams, case studies, projects, logbooks, workbooks.
- > Verbal report backs (presentations).
- > Portfolios of Evidence (RPL).
- > Working in teams (360 degrees evaluations).

- > Scenario sketching Incident reports.

The assessment tools and methods used by the assessor must be:

- > Fair, not to hinder or disadvantage the learner in any way.
- > Valid, to measure what is intended to measure.
- > Reliable, consistent and delivers the same output across a range of learners and assessors.

Summative Assessment:

For the learner to be certified competent against the qualification, he/she must prove overall competence through the integration of the competencies expressed in the unit standards. The elements of importance here are overall abilities, problem-solving capability and safe working. In addition, assessors should be satisfied that the learner has achieved a level of competence to be able to take charge of any aspect of the regulatory operations.

The learner's ability to demonstrate competence against a particular unit standard, under real-life working conditions and in the presence of an assessor, will be assessed. The summative assessment can also be used as a diagnostic assessment tool aimed at identifying the learner's skills gaps.

Workplace Assessment:

Workplaces can be used for assessment purposes provided that the appropriate facilities, tools, equipment, and support systems are available and accessible to both the assessor and the learner.

The regulatory operations industry agreed on the following requirements for workplace assessment:

- > Assessment needs to occur in a familiar environment at the time of assessment.
- > Assessment needs to take place at a time and venue mutually agreed to by the assessor and the learner.

Methods of Assessment:

The following methods of assessment have been identified as the preferred measurement and assessment of learner competence in the assessment criteria:

- > Portfolio of Evidence.
- > Written tests.
- > Practical tests.
- > Oral assessment methods.
- > In-situ (on-the-job) observations.
- > Simulation.
- > Structured classroom discussions and oral tests.

These methods will be selected carefully based on the purpose of the assessment. For example, the written method will be used to assess knowledge and on-the-job demonstration for practical competence. The assessment must integrate a number of different methods (no less than two of those detailed above) in order to give the assessor reliable and valid proof of competence and evidence of required attitudes.

INTERNATIONAL COMPARABILITY

An extensive international comparability study was conducted with various countries including New Zealand, Ireland, Scotland, UK's City and Guilds, USA and Australia. It was discovered that

there was no similar registered qualifications to adequately compare this qualification with. However, during the research enough training course material, in-house working documentation and information could be gathered to compare it with.

International Energy Regulation Network (IERN):

IERN is a platform that aims at facilitating information exchange on electricity and natural gas market regulation, to the benefit of regulators, but also of other interested users. Through IERN, regulators and other energy market stakeholders will be able to exchange information about themselves, the sectors they are involved in and the way these sectors are regulated.

IERN will also be a place where regulators can exchange information about training courses, conferences and online resources on energy regulation. Longer-term, IERN aims at becoming not only vector for exchanging existing information, but also a producer of in-house working papers on best practice.

The platform contains a full list of National Regulators or Regulatory Institutions of the energy sector highly independent from stakeholders and with different degrees of autonomy from Ministerial Departments, organized by continent/country.

A wide variety of training courses (there are numerous) are listed that could be compared to the unit standards provided in this qualification, for example the LSE Short Course on Regulation; Utility Regulation.

Potential qualifications that could be compared to this qualification include the following (the focus is mainly on energy generation and conservation rather than on regulatory requirements:

- > Postgraduate Diploma in Renewable Energy.
- > Postgraduate Certificate in Renewable Energy.
- > Degree of Master of Science in Renewable Energy.
- > The website lists compulsory modules and credit allocation to each module. In addition, all these modules can be used as stand alone modules and used for Continuous Professional Development points.

Institute for Public-Private Partnerships Incorporated:

The Institute for Public-Private Partnerships, Inc. (IP3), established in 1994, provides global training and consulting services to governments and industries in the growing international marketplace of public-private partnership (PPP) modeling, regulation design and implementation, and competitive utility management. Their platform provides brochures on courses available, some of which can be done online. However, you need to register to access more information about these courses.

New Zealand:

In New Zealand, regulatory qualifications exist, however they pertain to law and security and law enforcement in various sector such as animal control and welfare, pest control, parking enforcement, rates management/officer and so on.

Scotland:

In Scotland, the regulatory qualification pertains to Financial Services.

Ireland:

In Ireland no comparable qualifications were identified.

Identified programmes that could be used to compare this qualification against include the following, however there are no comparisons that could be made to energy regulatory authorities:

> Enbridge Technology.

> Enbridge Technology is a training and technology provider, providing custom- designed training and consulting services for clients in the oil and gas industry worldwide. A list of the possible pipeline operations training modules could be accessed, covering both the operations and maintenance aspects, but the contents of these modules could not be accessed (available on a for-sale-basis only). The modules contain information on how to complete the covered tasks. The courses are designed in accordance with API-approved principles, and the API naming conventions. From the list it seems that the modules cover similar pipeline operations competencies with regard to this specific qualification.

The list includes, for example:

- > Induction to fluid behaviour.
- > Induction to batch tracking.
- > Pump operations.
- > Induction to Pipeline Control System (SCADA).
- > Pumping Gradients.
- > Pump unit selection.
- > Trend Analysis.

From the available document, it is clear that a qualification for pipeline operators exists (Pipeline Control Centre Operations Qualification), however, there is no indication whether or not unit standards, levels or credits apply. It seems that the training came into being due to the regulatory requirements for pipeline operations.

City and Guilds:

Reference was made to oil and gas extraction, petroleum and chemical industries, but no documents were available.

American Petroleum Institute:

The platform was accessed and various training programmes exist, for example:

- > Introduction to Pipelining.
- > Introduction to Oil and Gas Production and Equipment.
- > Introduction to Gas Processing.
- > Petroleum Industry in Canada.
- > Pipeline Environment Inspection.
- > Petroleum Safety Training.
- > Oil Spill Containment and Recovery.
- > Oil Production Operators Course.
- > Oil and Gas Production Operator Basics.
- > Environmental Perspectives.

These courses are in existence but could not be accessed in order to determine more detail. The platform is set up as an advert to training rather than access to available competencies.

In Conclusion:

It was decided that in terms of the qualification model completeness the American Petroleum Institute (API) standards as well as American Standards of Temperature Measurement (ASTM) standards, which are accepted internationally was regarded as the best to compare and benchmark this qualification against in the context of the South African Regulatory Industry.

ARTICULATION OPTIONS

This Qualification allows for both horizontal and vertical articulation:

- > Horizontal Articulation is possible with:
 - > ID 58330: National Certificate: Pipeline Operations at NQF Level 5.
 - > ID 61570: National Diploma: Power Plant Process Control operations at NQF Level 5.
- > Vertical Articulation is possible with:
 - > National Certificate: Management Studies at NQF Level 6. Under construction.
 - > National Diploma: Master Artisan: Electrical at NQF Level 6. Under construction.

MODERATION OPTIONS

- > Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with a relevant ETQA 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 ETQA or with an ETQA that has a Memorandum of Understanding with relevant ETQA.
- > Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the relevant ETQA's policies and guidelines for assessment and moderation.
- > A learner wishing to be assessed for this qualification can only be assessed through an accredited assessment provider/centre.
- > Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual Unit Standards as well as in the Exit Level Outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The assessor for this qualification must be:

- > Have a similar qualification or that is at least one level higher than this qualification.
- > Meet the requirements of National Assessor Unit Standards.
- > Registered as an assessor with the relevant ETQA or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > Have at least a minimum of 1 year on the job relevant experience.

NOTES

N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	15234	Apply efficient time management to the work of a department/division/section	Level 5	4
Fundamental	119953	Apply principles of dispute management in labour relations	Level 5	10
Fundamental	10622	Conduct communication within a business environment	Level 5	8

Source: National Learners' Records Database

Qualification 63209

23/07/2008

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	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	15220	Set, monitor and measure the achievement of goals and objectives for a team, department or division within an organisation	Level 5	4
Core	257236	Apply knowledge of energy legislation and regulatory requirements	Level 5	6
Core	257239	Demonstrate an understanding of South African Regulated Industries	Level 5	8
Core	257238	Demonstrate an understanding of Third Party Access	Level 5	6
Core	257241	Demonstrate an understanding of the principles of regulation	Level 5	5
Core	257240	Demonstrate knowledge and understanding of Industry Infrastructure Planning and Tariff Setting	Level 5	8
Core	257237	Demonstrate knowledge and understanding of energy industry standard codes	Level 5	5
Core	257235	Demonstrate knowledge and understanding of the RSA Regulated Industry (Downstream) Marketing and Operations trends	Level 5	8
Core	243816	Develop a project quality management plan for a simple to moderately complex project	Level 5	6
Core	114882	Develop holistic productivity improvement strategies and plans	Level 5	10
Elective	116434	Control electrical networks from a control centre	Level 4	10
Elective	13710	Explain thermodynamic principles and concepts as applied in nuclear power generating plant	Level 4	9
Elective	119308	Manage and coordinate the movement and volumes of product through a dedicated-product pipeline network	Level 4	20
Elective	14586	Monitor and control quality control practices in a manufacturing/engineering environment	Level 4	8
Elective	119328	Perform and coordinate a pipeline network start-up	Level 4	20
Elective	119307	Perform basic planning of petroleum product movement	Level 4	4
Elective	116453	Perform operations on high voltage integrated systems	Level 4	4
Elective	119327	Perform pipeline network shut-down	Level 4	12
Elective	119310	Prepare for the movement of product throughout the pipeline network	Level 4	9
Elective	15231	Create and use a range of resources to effectively manage teams, sections, departments or divisions	Level 5	4
Elective	14907	Describe the Regulatory Nuclear Safety requirements as applied in nuclear power generating plant	Level 5	1
Elective	15225	Identify and interpret related legislation and its impact on the team, department or division and ensure compliance	Level 5	4
Elective	243843	Perform audits of product movements in a pipeline network	Level 5	11
Elective	10147	Supervise a project team of a technical project to deliver project objectives	Level 5	14

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION**None**



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

***Demonstrate knowledge and understanding of the RSA Regulated Industry
(Downstream) Marketing and Operations trends***

SAQA US ID	UNIT STANDARD TITLE		
257235	Demonstrate knowledge and understanding of the RSA Regulated Industry (Downstream) Marketing and Operations trends		
ORIGINATOR	PROVIDER		
SGB Engineering			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Engineering and Related Design		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	8

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of the downstream regulated industries.

SPECIFIC OUTCOME 2

Demonstrate knowledge and understanding of the Electricity regulated industry.

SPECIFIC OUTCOME 3

Demonstrate knowledge and understanding of the Petroleum regulated industry.

SPECIFIC OUTCOME 4

Demonstrate knowledge and understanding of the Gas regulated industry.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 63209	National Certificate: Energy Regulation	Level 5



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Apply knowledge of energy legislation and regulatory requirements

SAQA US ID	UNIT STANDARD TITLE		
257236	Apply knowledge of energy legislation and regulatory requirements		
ORIGINATOR	PROVIDER		
SGB Engineering			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Engineering and Related Design		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	6

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Explain the regulatory framework governing the energy regulation industry.

SPECIFIC OUTCOME 2

Define the objectives and principles relating to Acts and Regulations governing the energy regulatory industry.

SPECIFIC OUTCOME 3

Demonstrate knowledge and application of the different Regulator types within the industry.

SPECIFIC OUTCOME 4

Demonstrate a basic understanding of the role of the International Regulatory Association and how it impacts on the South African energy regulatory industry.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 63209	National Certificate: Energy Regulation	Level 5



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate knowledge and understanding of energy industry standard codes***

SAQA US ID	UNIT STANDARD TITLE		
257237	Demonstrate knowledge and understanding of energy industry standard codes		
ORIGINATOR	PROVIDER		
SGB Engineering			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Engineering and Related Design		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	5

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of National and International Codes of Practice and Standards.

SPECIFIC OUTCOME 2

Identify and describe accepted deviations from Codes of Practice and Standards for energy regulation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	63209	National Certificate: Energy Regulation	Level 5



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate an understanding of Third Party Access***

SAQA US ID		UNIT STANDARD TITLE	
257238		Demonstrate an understanding of Third Party Access	
ORIGINATOR		PROVIDER	
SGB Engineering			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Engineering and Related Design	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	6

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Develop a communication plan.

SPECIFIC OUTCOME 2

Organise a public meeting.

SPECIFIC OUTCOME 3

Conduct a public meeting.

SPECIFIC OUTCOME 4

Write a report on third party input.

SPECIFIC OUTCOME 5

Develop an access pricing framework.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	63209	National Certificate: Energy Regulation	Level 5



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate an understanding of South African Regulated Industries***

SAQA US ID		UNIT STANDARD TITLE	
257239		Demonstrate an understanding of South African Regulated Industries	
ORIGINATOR		PROVIDER	
SGB Engineering			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Engineering and Related Design	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	8

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge and understanding of the history of regulated industries.

SPECIFIC OUTCOME 2

Demonstrate knowledge of the different regulated industries.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	63209	National Certificate: Energy Regulation	Level 5



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate knowledge and understanding of Industry Infrastructure Planning and Tariff Setting

SAQA US ID		UNIT STANDARD TITLE	
257240		Demonstrate knowledge and understanding of Industry Infrastructure Planning and Tariff Setting	
ORIGINATOR		PROVIDER	
SGB Engineering			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Engineering and Related Design	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	8

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Analyse and assess the current situation of South African Industry Infrastructure.

SPECIFIC OUTCOME 2

Demonstrate an understanding of tariff setting for each of the regulated industries and for each licensed activity of the industry.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	63209	National Certificate: Energy Regulation	Level 5



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate an understanding of the principles of regulation***

SAQA US ID		UNIT STANDARD TITLE	
257241		Demonstrate an understanding of the principles of regulation	
ORIGINATOR		PROVIDER	
SGB Engineering			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Engineering and Related Design	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	5

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Identify and describe the criteria of licensing conditions for a regulated industry.

SPECIFIC OUTCOME 2

Identify and explain the economic regulation principles embedded in the industry Acts.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 63209	National Certificate: Energy Regulation	Level 5

No. 821

8 August 2008

**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 Qualifications and Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualifications and Unit Standards. The full Qualifications and Unit Standards can be accessed via the SAQA web-site at www.saq.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 Qualifications and Unit Standards should reach SAQA at the address below and **no later than 8 September 2008**. All correspondence should be marked **Standards Setting – Mining and Minerals** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: Mr. D. Mphuthing

Postnet Suite 248

Private Bag X06

Waterkloof

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e-mail: dmphuthing@saqa.org.za

DR. S. BHIKHA

DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Certificate: Rockbreaking: Surface Excavations

SAQA QUAL ID	QUALIFICATION TITLE		
62869	National Certificate: Rockbreaking: Surface Excavations		
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	141	Level 3	Regular-Unit Stds Based

This qualification replaces:

Qual ID	Qualification Title	NQF Level	Min Credits	Replacement Status
21842	National Certificate: Surface Mining Rockbreaking	Level 2	147	Will occur as soon as 62869 is registered
57121	National Certificate: Rockbreaking: Quarrying	Level 3	160	Will occur as soon as 62869 is registered

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

There is a critical need in the industry to equip people with the required competencies to conduct safe and efficient rockbreaking activities in surface excavation to sustain the future of the surface mining industry.

Rockbreaking operations are often conducted under dangerous and difficult conditions, which have to be managed appropriately in order to preserve lives and protection of equipment working in close proximity, and ensure operational efficiency.

The National Certificate in Rockbreaking for Surface Excavations (NQF Level 3) is a statutory requirement in terms of the Mine Health and Safety Act and Regulations for persons conducting rockbreaking operations to be deemed competent.

Learners acquiring this qualification will have an improved understanding of their role and will acquire the applied competencies to consistently and effectively execute their duties by contributing to the surface 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 a surface mining environment.

Learners 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.
- > Conduct primary and secondary rockbreaking operations in a safe and proper manner in accordance with legislative requirements.
- > Take control of rockbreaking operations.

Rationale:

The National Certificate in Rockbreaking: Surface Excavations NQF Level 3 is designed to contribute to an effective mining operation, in particular rockbreaking competence in surface excavations. Surface excavations refer to surface mines and quarrying and the surface mining of minerals such as:

- > Copper, coal, vermiculite, carbonates.
- > The quarrying of rock, sand, clay and other industrial minerals and dimension stone.

Rockbreaking activities involve the breaking of rock in a pre-determined sequence to maximise the break of the advancing bench and at the same time minimising damage to the surroundings and to ensure a safe working environment for the production teams. These rockbreaking activities could be undertaken by means of explosives or mechanical means or a combination of both. This qualification provides for both primary and secondary rockbreaking operations in surface excavations in terms of Chapter 4, Explosives Regulations under the Mines Health and Safety Act.

Persons conducting rockbreaking operations require sound technical knowledge of the type of material being mined and its behaviour during breaking with specific reference to geological disconformities, depth, stress regimes, and protection of machinery, equipment and people working in the vicinity of the operations.

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.

The National Certificate in Rockbreaking: Surface Excavations (Level 3) facilitates access for previously disadvantaged groups and other learners to acquire the technical knowledge and skills that are required to conduct rockbreaking operations.

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 surface mining industries.

The majority of the candidates for this qualification are likely to be working in the mining and minerals sector. The qualification will give them the opportunity to balance their practical skills with the essential knowledge needed to earn a formal qualification in rockbreaking operations. This qualification will provide qualifying learners with the necessary knowledge, understanding and competence to conduct rockbreaking operations.

This is the third in a learning pathway of five qualifications for Surface Mining Operations. The pathway begins with the GETC: Mining and Mineral Processes NQF Level 1 and ends with the National Certificate in Mining Operations NQF Level 5. This qualification series recognises the skills, knowledge and values relevant to a workplace and requires workplace experience.

Qualifying learners will obtain the National Certificate in Rockbreaking: Surface Excavations NQF Level 3 that will enable them to conduct rockbreaking operations.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED IN PLACE

It is assumed that learners are already competent in:

- > Communication and Mathematical Literacy at NQF Level 2.
- > Display understanding of the mechanical and electrical engineering discipline processes and procedures Level 2.
- > Demonstrate knowledge pertaining to basic health and safety principles in and around a workplace L1.
- > Understand the kinds of minerals and related products mined in the South Africa Mining & Minerals Sector and their importance to both the local stakeholders and within the global arena L1.

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.

All such evidence should be judged according to the general principles of assessment described in the note to assessors.

Access to the Qualification:

Access to this qualification is open bearing in mind the learning assumed to be in place.

QUALIFICATION RULES**Fundamental:**

- > All the unit standards totalling 36 credits are compulsory and must be achieved.

Core:

- > All the unit standards totalling 65 credits are compulsory and must be achieved.

Electives:

- > Any unit standards totalling 40 credits must be chosen as specified below.

The qualification totals 141 credits.

For the specialisation stream: Surface Mining and Quarrying:

A total of 40 credits must be chosen from the specialization stream:

The following 20 credits must be achieved:

- > ID 230020: Drill small diameter blast holes using a drilling rig and compressor, NQF Level 2, Credits 5.
- > ID 257039: Blast materials in Surface excavations, NQF Level 3, Credits 15.

An additional 20 credits must be chosen from the list below:

- > ID 257017: Transport and distribute explosives using a heavy duty explosives vehicle NQF Level 2, Credits 2.
- > ID 257056: Remove hazardous ground by means of blasting NQF Level 3, Credit 4.
- > ID 257015: Transport and distribute explosives using a Light Delivery Explosives Vehicle, NQF Level 2, Credits 4.
- > ID 257030: Assist blasting operations, NQF Level 2, Credits 4.
- > ID 257026: Drill blast holes in a Surface Mining Operation, NQF Level 3, Credits 15.
- > ID 257040: Dewater blast holes using vehicle mounted dewatering pump, NQF Level 1, Credits 4.
- > ID 110218: Collect, store and issue explosives from a surface magazine, NQF Level 3, Credits 10.
- > ID 257042: Install and maintain a initiating system in a surface mine, NQF Level 2, Credits 2.
- > ID 257041: Bar down loose rocks using appropriate equipment, NQF Level 3, Credits 4.
- > ID 230011: Drill medium diameter blast holes using an hydraulic or pneumatic drilling rig and compressor, NQF Level 2, Credits 5.
- > ID 230013: Conduct face profiling and blast hole surveys, NQF Level 3, Credits 6.
- > ID 257095: Carry out basic surveying and calculations in surface excavations, NQF Level 3, Credits 8.
- > ID 257075: Design blasts for surface excavations, NQF Level 4, Credits 24.
- > ID 230017: Carry out blasting environmental testing, NQF Level 4, Credits 6.
- > ID 230018: Operate a mixer-placer explosives truck, NQF Level 2, Credits 6.
- > ID 257019: Load, transport and place explosive components into blast holes using mixer-placer truck, NQF Level 2, Credits 6.

For the specialisation stream: Dimension Stone Operations:

The following 37 credits must be achieved:

- > ID 116632: Drill holes for blasting and/or splitting dimension stone blocks using a mechanised drill rig, NQF Level 2, Credits 6.
- > ID 116627: Demonstrate basic understanding of dimension stone geology and mineralogy, NQF Level 3, Credits 16.
- > ID 116614: Conduct blasting operations in dimension stone quarries, NQF Level 3, Credits 15.

An additional 3 credits must be chosen from the list below:

- > ID 116625: Split dimension stone blocks by means of non explosive methods, NQF Level 2, Credits 4.
- > ID 116626: Handle dimension stone blocks by means of front end loader, NQF Level 3, Credits 13.
- > ID 116658: Drill intersecting holes for diamond wire sawing, NQF Level 2, Credits 7.
- > ID 116663: Make saw cuts by means of diamond wire saw, NQF Level 3, Credits 15.
- > ID 230019: Demonstrate and apply knowledge of dimension stone quality and geology to block extraction, NQF Level 3, Credits 21.

EXIT LEVEL OUTCOMES

1. Communicate and solve problems in a variety of ways.
2. Adhere to occupational safety, health, environmental and legislative requirements.
3. Conduct primary and secondary rockbreaking operations in a safe and proper manner in accordance with legislation requirements.
 - > Range: Primary and secondary rockbreaking operations include but are not limited to assessing the geological nature of surface extraction sites.
4. Take control of rockbreaking operations.

> Note: The requirements for rockbreaking operations such as marking, drilling and blasting operations in surface mines and quarries are different from those for dimension stone and these will all be determined by the type of operation.

Critical Cross-Field Outcomes:

These are embedded in the unit standards, which make up the qualification and are thus also reflected in the Exit Level Outcomes of the qualification:

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

- > Related to the application of rockbreaking technology and skills.
- > In preparation and during the execution of job activities.
- > Solving familiar rockbreaking problems.

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

- > All tasks and work-related experience are performed within a team environment.
- > Taking into account, the safety of others.
- > Communicating with production, quality control and supervisory personnel and/or clients.

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

- > Related to planning and preparation of rockbreaking activities and tasks.
- > Adhering to health and safety requirements.

Collecting, analyzing, organizing and critically evaluating information.

- > Related to planning and preparation in order to execute job activities.
- > Completion of technical reports related to the job activity.
- > Solve familiar problems related to rockbreaking tasks at hand.

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

- > During planning, preparation and the execution of job activities.
- > Completion of technical reports related to the job activity.
- > Communicating effectively by verbal explanation.
- > Communicating as a part of a team.

Using science and technology effectively and showing responsibility towards the environment and health of others when:

- > To interact with modern blasting related explosives, accessories and equipment.

Demonstrating an understanding of the world as a set of related systems by recognising the complex and dynamic nature of these systems as well as the inter-relationships and linkages that exist between systems when:

- > To understand the relationship between upstream, downstream and associated processes, and the impact that he may have in each regard.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

- 1.1 Oral communication is maintained and adapted to facilitate rockbreaking operations in accordance with productivity requirements.
- 1.2 Written communication is conducted at an appropriate level for designated target audiences.
- 1.3 Mathematical principles and techniques are applied while performing the tasks related to rockbreaking operations.
- 1.4 Basic mathematical principles are applied to perform calculations and solve routine problems that occur in the workplace.
- 1.5 Problems and solutions are recorded and monitored.

Associated Assessment Criteria for Exit Level Outcome 2:

- 2.1 Occupational health, safety and environmental principles and practices are explained and applied in the workplace.
- 2.2 Hazardous conditions in rockbreaking operations are identified and rectified on a continual basis to ensure the health and safety of persons in the workplace.
- 2.3 Hazardous conditions in rockbreaking operations are monitored and reported on a continual basis to ensure the safety and health of persons.
- 2.4 Explosives and explosive accessories are stored, transported and handled in accordance with mine standards.
- 2.5 Basic first aid treatment to be carried out in the workplace in accordance with legislation.
- 2.6 Fire extinguishers are used in accordance with site specific requirements.

Associated Assessment Criteria for Exit Level Outcome 3:

- 3.1 Knowledge of explosives and accessory types and applications is demonstrated to reflect legal and site specific requirements.
- 3.2 Work areas are prepared and marked for drilling in accordance with legal and site specific requirements.
> Range: Preparation and marking activities include but are not limited to reading and interpreting surface excavation plans.
- 3.3 The workplace is examined and made safe in accordance with legal and site specific requirements.
- 3.4 Shot holes are charged with explosives in preparation for rockbreaking operations.
- 3.5 Misfires are treated to ensure safety in the workplace.
- 3.6 Secondary rockbreaking activities are carried out using explosives and/or mechanical means.

Associated Assessment Criteria for Exit Level Outcome 4:

- 4.1 Marking, drilling and blasting operations are co-ordinated and conducted in surface excavation sites in accordance with set standards.
> Range: Operations include but are not limited to explosives are transported and distributed using a light delivery vehicle, transported and distributed using a heavy duty explosives vehicle, Blast holes are dewatered using a vehicle mounted dewatering pump. Explosive components are loaded, transported and placed into blast holes using mixer-placer truck.
- 4.2 Hazardous ground conditions are identified in surface excavations and appropriate action is taken to safeguard persons, machinery and equipment.
- 4.3 Plant, machinery, equipment and people are protected from rockbreaking activities.
Range: Protection includes but is not limited to rockbreaking fumes and dust, evacuations, barricading, cordoning off.
- 4.4 Reports are compiled and submitted in accordance with legal and site-specific requirements.

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.

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 further 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 quarrying rockbreaking.

INTERNATIONAL COMPARABILITY

The following approach was followed when conducting research for comparing against from qualifications elsewhere in the world:

- > Countries with a formal Qualifications Framework, such as the United Kingdom (NVQ and SVQ), Australia and New Zealand.
- > Countries who are reputed to be leaders in a particular field.
- > SADEC countries, which are in geographical proximity to South Africa.
- > Countries with emerging economies (particularly in the mining context).

Mining Regions:

The summary focuses on economic and legal aspects such as mineral rights and licences, but is nevertheless a valuable resource in terms of looking for similar areas to the context in which the International Comparability is being conducted.

North America:

North America is the major producer of gold and silver. Raw mineral production in 1998 was valued at approximately US\$ 70 billion. The industry employs approximately 1 million people. Major companies include Barrick, Newmont and Industrias Penoles.

Europe:

Europe is not a major mining centre. However, it has several established base metal mines in Scandinavia, Ireland and the Iberian Peninsula. Major companies include Boliden and Outokumpu.

Asia:

Asia is a major producer of base metals, PGE's, ferrous metals and coal. Most major producers are state controlled, but foreign investment is being encouraged, in particular by China, India and the CIS.

South America:

South America is a major producer of base and ferrous metals, in particular copper and iron ore. Major companies include Codelco, Barrick, CVRD, Newmont and Rio Tinto.

Africa:

Africa is a major producer of cobalt, gold, PGE's coal, iron ore, and diamonds. Mining accounts for a substantial proportion of several countries GDP's. Major companies include Anglo American, De Beers, Rio Tinto and BHP Billiton.

Australasia:

Australasia is a leading producer of iron ore, gold and base metals. Major companies include BHP Billiton and Rio Tinto.

The training programmes and processes involved in these countries have largely been scrutinised from the perspective of the different models in blasting qualifications and competencies as reflected below.

Blasting Qualifications and Competencies - Different Models:

The core competencies in the NC: Rockbreaking Level 3 relate to rockbreaking or blasting, which would include aspects such as explosives handling, safety and environmental.

The exercise revealed three main models worldwide:

> Traditionally, blasting licences or tickets are issued to applicants meeting strict requirements. Typically a temporary licence is issued and a permanent licence issued after a qualifying period in operations. An examination (verbal, written and/or practical) will be conducted by an appropriate authority. Countries where this is in place include United States of America, Namibia and India.

Typical requirements for a blasting ticket or licence under this model for South Africa would be the same as for Namibia.

Qualifications for Blasting Certificates:

> 11.3 (1) Subject to the provisions of sub-regulation (3), a blasting certificate shall not be issued to any person, unless such person has, on an application made by him or her in such form as may be determined by the Chief Inspector, been admitted as a candidate for, and has passed such examination as may be determined by the Chief Inspector held in such form as may be so determined.

> (2) (a) The examinations shall be held at such times and at such centres as may be fixed by the Chief Inspector and shall be conducted by such examiners as may be appointed by the Chief Inspector.

> (b) The Chief Inspector shall not appoint a person as examiner under paragraph (a), unless such person is the holder of a valid blasting certificate similar to the certificate for which the examination is being conducted.

> (3) No person shall be admitted as a candidate for any examination referred to in sub-regulation (1), unless such person:

(a) Has attained the age of 18 years.

(b) Possesses a valid first aid certificate.

(c) Has been examined by a medical practitioner and a medical certificate issued certifying that he or she is free from deafness, defective vision or any other infirmity, mental or physical, likely to interfere with his or her work.

(d) Can read and write English.

(e) Has had, at least, the following number of shifts experience, namely:

> 300 shifts for an underground blasting certificate.

> 120 shifts for an opencast blasting certificate.

Learners or candidates in these countries (United States of America, Namibia and India) do not achieve formal qualifications, but will undergo workplace-based training either under the auspices of the employer or those of training providers specialising in that particular field. The South African context requires the completion of a formal qualification to be registered as a blaster.

Malaysia; Training Course for Shotfirers:

The Institute of Quarrying in Malaysia - is a Branch of the Institute of Quarrying United Kingdom and conducts the following course "training course for shot-firers" that ensures fully qualified, skilful and competent shot-firers officially recognised throughout Malaysia.

Training Modules Include:

> Receive, Store and Issue Explosive Materials.

> Obtain and Transport Explosive Materials.

> Charge Blast Holes to Specification.

> Blast to Specification.

> Deal with Misfires.

In more modern (outcomes based) systems, learners achieve outcomes or vocationally based qualifications which then enable them to be "accredited" as blasters or shotfirers. Due to the legal (and security) implications associated with explosives, there may be other legal requirements relating to individuals, such as criminal records and mental stability. The principles of "currency of competence" and "continuous development" is also generally applied to holders of this qualification.

Qualifications found in this regard include:

> New Zealand: NC in Extractive Industries - (Shotfiring-Surface).

Relevant Standards include:

> Store explosives for use in extractive industries - Level 4, Credits 10.

> Design blasting layouts within quarries and aggregate production areas.

> Carry out shot-firing operations.

Australia; Australia - Certificate III in Extractive Industries Operations:

Relevant Standards Include:

> MNQOPS311A Conduct blast survey.

> MNQOPS312A Conduct blast hole drilling operations.

> MNQOPS313A Handle and transport explosives.

> MNQOPS413A Conduct shotfiring.

United Kingdom; NVQ Blasting Operations, NVQ Shotfiring Operations - Quarries:

Relevant Standards Include:

- > U1052394 - PR01 - Contribute to an Efficient and Effective Work Environment.
- > U1052390 - PR02 - Contribute to Health and Safety in the Workplace.
- > U1053349 - SF3 - Receive, Store and Issue Explosive Materials.
- > U1053348 - SF4 - Obtain and Transport Explosive Materials.
- > U1053347 - SF5 - Charge Blast Holes to Specification.
- > U1053346 - SF6 - Blast to Specification.
- > U1053345 - SF7 - Deal with Misfires.

Transition from the traditional blasting system to the modern system:

In a number of countries, there is currently a transition from the traditional system to the modern system, in which a dual system is in place or will be in place once the qualifications being developed are registered or endorsed in terms of the relevant bodies.

Transitional arrangements typically entail a phasing out of the traditional blasting licences in terms of new applicants, and then a cut-off date beyond which no further applications will be accepted. Parallel to this the new qualification will be phased in and from a specific date will then become a prerequisite for the issuing of a blasting licence or permit.

Holders of current licences are treated in one of the following ways:

- > Expiry of their blasting licences (e.g. New Zealand).
- > "Top-up" training and assessment in order to comply with the requirements of the relevant qualification (e.g. United Kingdom).

Exemption from the new qualification (i.e. the current licence remains valid (e.g. South Africa). The blasting licence and qualification were subjected to a comparative analysis and deemed to be sufficiently similar in intent and content.

Conclusion:

From the above it can be concluded that the envisaged NC: Rockbreaking: Surface Excavations is in line with current international best practice models. Moreover, the qualification effectively provides for both holders of current blasting licences who may wish to convert or top up to the new qualification.

The NC: Rockbreaking is in line with similar qualifications in other countries in terms of intent and content.

ARTICULATION OPTIONS

This qualification allows for both vertical and horizontal articulation.

Vertical Articulation exists with:

- > FETC: Mining Operations (under development).

Horizontal Articulation exists with:

- > National Certificate: Rockbreaker: Underground Coal NQF Level 3.

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against 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 above the level of this qualification and preferably relevant workplace practical experience.

> Registration as an assessor with the relevant ETQA.

NOTES

This qualification replaces the following qualifications:

> 21842, "National Certificate: Surface Mining Rockbreaking", Level 2, 147 credits.

> 57121, "National Certificate: Rockbreaking: Quarrying", Level 3, 160 credits.

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	4
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	9012	Investigate life and work related problems using data and probabilities	Level 3	5
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Core	115101	Address workplace hazards and risks	Level 2	4
Core	116520	Apply safety, health and environmental principles and procedures in a workplace	Level 2	2
Core	257036	Demonstrate a basic understanding of explosives and accessories	Level 2	2

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Core	257033	Demonstrate an understanding of support methods in surface mines and quarries	Level 2	4
Core	116533	Demonstrate basic knowledge and understanding of emergency preparedness and response	Level 2	2
Core	257055	Identify and demarcate misfires in a surface excavation	Level 2	2
Core	257022	Make up primer and charge holes	Level 2	2
Core	244378	Receive, handle, store and issue explosives and accessories at a workplace	Level 2	2
Core	257058	Time and connect blast initiating systems	Level 2	2
Core	116534	Carry out basic first aid treatment in the workplace	Level 3	2
Core	257037	Carry out secondary breaking using explosives in surface excavations	Level 3	11
Core	257023	Co-ordinate drilling and blasting operations	Level 3	10
Core	230010	Demonstrate knowledge of the geological nature of surface extraction sites	Level 3	6
Core	257078	Examine and make safe blasted Surface excavations	Level 3	5
Core	257016	Examine and make safe non-blasted surface excavations	Level 3	4
Core	257059	Prepare and mark off work area for drilling	Level 3	3
Core	257057	Read and interpret surface excavation plans	Level 3	2
Elective	257030	Assist blasting operations	Level 2	4
Elective	256997	Break rock using a hydraulic rock breaker	Level 2	13
Elective	10490	Carry out secondary breaking by mechanical means	Level 2	8
Elective	244376	Cut mild steel by means of an Oxy-acetylene cutting torch	Level 2	3
Elective	257040	De-water blast holes using vehicle mounted de-watering pump	Level 2	4
Elective	256998	Deliver compressed air using a mobile electrical compressor	Level 2	4
Elective	253025	Demonstrate knowledge and ability to work in a surface mine	Level 2	8
Elective	257021	Doze material using a rubber wheel dozer	Level 2	14
Elective	116632	Drill holes for blasting and/or splitting dimension stone blocks using a mechanised drill rig	Level 2	6
Elective	116658	Drill intersecting holes for diamond wire sawing	Level 2	7
Elective	230011	Drill medium diameter blast holes using an hydraulic or pneumatic drilling rig and compressor	Level 2	5
Elective	230020	Drill small diameter blast holes using a percussion drilling rig and compressor	Level 2	5
Elective	257024	Haul and dump material using a haul truck	Level 2	11
Elective	257077	Illuminate an area using a lighting plant	Level 2	2
Elective	257042	Install and maintain an initiating system in a surface mine	Level 2	2
Elective	253582	Lift and move a load using manual lifting equipment and tackle	Level 2	8
Elective	257034	Load and offload material using a skid steer loader	Level 2	9
Elective	257031	Load, Haul and Dump material using a front end loader	Level 2	16
Elective	257035	Load, haul and dump material using a scraper	Level 2	12
Elective	257019	Load, transport and place explosives components into blast holes using a mixer-placer truck	Level 2	6
Elective	256995	Move trailing cable using cable reeler	Level 2	8
Elective	230018	Operate a mixer-placer explosives truck	Level 2	6
Elective	14911	Participate in formal meetings	Level 2	3
Elective	12484	Perform basic fire fighting	Level 2	4
Elective	257029	Pump water using a De-watering Pump	Level 2	4
Elective	257018	Relocate machines and equipment using a lowbed	Level 2	10
Elective	116625	Split dimension stone blocks by means of non explosive methods	Level 2	4
Elective	257060	Suppress dust using a water bowser	Level 2	10
Elective	257015	Transport and distribute explosives by means of a light duty explosives vehicle	Level 2	4
Elective	257017	Transport and distribute explosives using a heavy-duty explosives vehicle	Level 2	2
Elective	257135	Transport and distribute fuel using a Fuel Bowser	Level 2	4
Elective	257020	Transport material and equipment using a flat back truck	Level 2	10
Elective	257025	Transport personnel, material and equipment using Light Delivery Vehicle	Level 2	4
Elective	116937	Use a Graphical User Interface (GUI)-based spreadsheet application to create and edit spreadsheets	Level 2	4

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Elective	117924	Use a Graphical User Interface (GUI)-based word processor to format documents	Level 2	5
Elective	257038	Use a track dozer to move material	Level 2	14
Elective	13912	Apply knowledge of self and team in order to develop a plan to enhance team performance	Level 3	5
Elective	257041	Bar down loose rocks using appropriate equipment	Level 3	4
Elective	257039	Blast materials in Surface excavations	Level 3	15
Elective	257095	Carry out basic surveying and calculations in surface excavations	Level 3	8
Elective	110218	Collect, store and issue explosives from a surface magazine	Level 3	10
Elective	116614	Conduct blasting operations in dimension stone quarries	Level 3	15
Elective	230013	Conduct face profiling and blast hole surveys	Level 3	6
Elective	230019	Demonstrate and apply knowledge of dimension stone quality and geology to block extraction	Level 3	21
Elective	116627	Demonstrate basic understanding of dimension stone geology and mineralogy	Level 3	16
Elective	244422	Demonstrate knowledge of the most common harmful gases and vapours	Level 3	4
Elective	257026	Drill blast holes in a surface mining operation	Level 3	15
Elective	257076	Excavate and load material using hydraulic excavator	Level 3	26
Elective	257115	Grade material using a motor grader	Level 3	14
Elective	116626	Handle dimension stone blocks by means of front end loader	Level 3	13
Elective	257027	Install support in surface mines and quarries	Level 3	7
Elective	257032	Load material using a face shovel	Level 3	26
Elective	116663	Make saw cuts by means of diamond wire saw	Level 3	15
Elective	257028	Operate Tractor Loader Backhoe	Level 3	13
Elective	117877	Perform one-to-one training on the job	Level 3	4
Elective	256996	Relocate material using a dragline	Level 3	26
Elective	257056	Remove hazardous ground by means of blasting	Level 3	4
Elective	230017	Carry out blasting environmental testing	Level 4	6
Elective	257075	Design blasts for surface excavations	Level 4	24
Elective	242810	Manage Expenditure against a budget	Level 4	6

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Move trailing cable using cable reeler***

SAQA US ID		UNIT STANDARD TITLE	
256995		Move trailing cable using cable reeler	
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
10569	Move Trailing Cable using Cable Reeler	Level 2	8	Will occur as soon as 256995 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding trailing cables using a Cable Reeler.

SPECIFIC OUTCOME 2

Prepare to move trailing cables.

SPECIFIC OUTCOME 3

Move trailing cables.

SPECIFIC OUTCOME 4

Complete the duties pertaining to moving trailing cable operations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Relocate material using a dragline

SAQA US ID	UNIT STANDARD TITLE		
256996	Relocate material using a dragline		
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	26

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding to relocate material using a dragline.

SPECIFIC OUTCOME 2

Prepare to relocate material.

SPECIFIC OUTCOME 3

Relocate material.

SPECIFIC OUTCOME 4

Complete the duties pertaining to relocation of material operations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Break rock using a hydraulic rock breaker

SAQA US ID	UNIT STANDARD TITLE		
256997	Break rock using a hydraulic rock 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	13

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
115612	Break rock using a hydraulic Rockbreaker	Level 2	13	Will occur as soon as 256997 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding of rockbreaking using a hydraulic rock breaker.

SPECIFIC OUTCOME 2

Prepare to break rock using a hydraulic rock breaker.

SPECIFIC OUTCOME 3

Break rock using a hydraulic rock breaker.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the rock breaking operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Deliver compressed air using a mobile electrical compressor***

SAQA US ID		UNIT STANDARD TITLE	
256998		Deliver compressed air using a mobile electrical compressor	
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

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding the delivering of compressed air using an electrical mobile compressor.

SPECIFIC OUTCOME 2

Prepare to deliver compressed air.

SPECIFIC OUTCOME 3

Deliver compressed air.

SPECIFIC OUTCOME 4

Complete the duties pertaining the delivering of compressed air.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Transport and distribute explosives by means of a light duty explosives vehicle

SAQA US ID		UNIT STANDARD TITLE	
257015		Transport and distribute explosives by means of a light duty explosives 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 2	4

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11666	Transport and distribute explosives using a Light Delivery Explosives Vehicle	Level 1	4	Will occur as soon as 257015 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding transporting and distribution of explosives.

SPECIFIC OUTCOME 2

Prepare to transport and distribute explosives.

SPECIFIC OUTCOME 3

Transport and distribute explosives.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the transportation and distribution of explosives operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Examine and make safe non-blasted surface excavations***

SAQA US ID	UNIT STANDARD TITLE		
257016	Examine and make safe non-blasted surface excavations		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
115507	Examine and make safe non-blasted quarry excavations	Level 3	4	Will occur as soon as 257016 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding of significant risk of falls of ground in non-blasted surface excavations.

SPECIFIC OUTCOME 2

Examine non-blasted surface excavations, dumps and stockpiles.

SPECIFIC OUTCOME 3

Declare safe non-blasted surface excavations, dumps and stockpiles.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport and distribute explosives using a heavy-duty explosives vehicle***

SAQA US ID	UNIT STANDARD TITLE		
257017	Transport and distribute explosives using a heavy-duty explosives 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 2	2

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
9708	Transport and distribute explosives using a Heavy-Duty Explosives Vehicle	Level 1	4	Will occur as soon as 257017 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding transporting and distribution of explosives using a heavy duty explosives vehicle.

SPECIFIC OUTCOME 2

Prepare to transport and distribute explosives.

SPECIFIC OUTCOME 3

Transport and distribute explosives.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the transportation and distribution of explosives operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Relocate machines and equipment using a lowbed

SAQA US ID	UNIT STANDARD TITLE		
257018	Relocate machines and equipment using a lowbed		
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	10

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding relocating machines using a lowbed.

SPECIFIC OUTCOME 2

Prepare to relocate machines and equipment.

SPECIFIC OUTCOME 3

Relocate machines and equipment.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the relocating operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Load, transport and place explosives components into blast holes using a mixer-placer truck

SAQA US ID	UNIT STANDARD TITLE		
257019	Load, transport and place explosives components into blast holes using a mixer-placer truck		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11673	Load, transport and place explosives components into blast holes using a Mixer-Placer Truck	Level 2	6	Will occur as soon as 257019 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding load, transport and place explosives components into blast holes using a mixer-placer truck.

SPECIFIC OUTCOME 2

Prepare to load, transport and place explosives components into blast holes using a mixer-placer truck.

SPECIFIC OUTCOME 3

Load, transport and place explosives components into blast holes using a mixer-placer truck.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the load, transport and place explosives components into blast holes using a mixer-placer truck operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport material and equipment using a flat back truck***

SAQA US ID	UNIT STANDARD TITLE		
257020	Transport material and equipment using a flat back truck		
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	10

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
120444	Transport material and equipment using a flat back truck with machine mass not exceeding 16 000 kg	Level 2	10	Will occur as soon as 257020 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding transporting material using a flat back truck.

SPECIFIC OUTCOME 2

Prepare to transport material using a flat back truck.

SPECIFIC OUTCOME 3

Transport material and equipment using a flat back truck.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the transport operations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Doze material using a rubber wheel dozer***

SAQA US ID	UNIT STANDARD TITLE		
257021	Doze material using a rubber wheel dozer		
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	14

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding dozing material using a rubber wheel dozer.

SPECIFIC OUTCOME 2

Prepare to doze material.

SPECIFIC OUTCOME 3

Doze material.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the dozing operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Make up primer and charge holes

SAQA US ID		UNIT STANDARD TITLE	
257022		Make up primer and charge 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	2

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of explosives handling, transport and storage.

SPECIFIC OUTCOME 2

Make up primer and charge holes.

SPECIFIC OUTCOME 3

Prepare to charge shot holes with explosives and accessories.

SPECIFIC OUTCOME 4

Charge shot holes with explosives.

SPECIFIC OUTCOME 5

Perform post-charging activities.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Co-ordinate drilling and blasting operations

SAQA US ID	UNIT STANDARD TITLE		
257023	Co-ordinate drilling and blasting operations		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
115615	Co-ordinate drilling and blasting operations	Level 3	26	Will occur as soon as 257023 is registered

SPECIFIC OUTCOME 1

Monitor compliance to the drilling and blasting plan.

SPECIFIC OUTCOME 2

Evaluate blasting techniques and options.

SPECIFIC OUTCOME 3

Select appropriate blasting techniques.

SPECIFIC OUTCOME 4

Adhere to safe blasting procedures.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Haul and dump material using a haul truck

SAQA US ID	UNIT STANDARD TITLE		
257024	Haul and dump material using a haul truck		
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	11

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
10566	Haul and dump material using Off Highway Rigid Body Rear Dumper with mass exceeding 16 000 Kg	Level 2	10	Will occur as soon as 257024 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding hauling and dumping material using a haul truck.

SPECIFIC OUTCOME 2

Prepare to haul and dump material.

SPECIFIC OUTCOME 3

Haul and dump material.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the hauling and dumping operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Transport personnel, material and equipment using Light Delivery Vehicle

SAQA US ID	UNIT STANDARD TITLE		
257025	Transport personnel, material and equipment using Light Delivery 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 2	4

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
10567	Transport personnel, material and equipment using Light Delivery Vehicle	Level 1	4	Will occur as soon as 257025 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding transporting of personnel, material and equipment.

SPECIFIC OUTCOME 2

Prepare to transport personnel, material and equipment.

SPECIFIC OUTCOME 3

Transport personnel, material and equipment.

SPECIFIC OUTCOME 4

Monitor the duties pertaining to the transportation of personnel, material and equipment.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Drill blast holes in a surface mining operation

SAQA US ID	UNIT STANDARD TITLE		
257026	Drill blast holes in a surface mining operation		
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	15

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11672	Drill holes using Track Type Percussion Drill	Level 2	6	Will occur as soon as 257026 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding drilling blast holes in a surface mining operation.

SPECIFIC OUTCOME 2

Prepare to drill blast holes.

SPECIFIC OUTCOME 3

Drill blast holes.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the drilling of blast holes.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Install support in surface mines and quarries

SAQA US ID	UNIT STANDARD TITLE		
257027	Install support in surface mines and quarries		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
116630	Install and maintain support in surface mines and quarries	Level 3	10	Will occur as soon as 257027 is registered

SPECIFIC OUTCOME 1

Demonstrate knowledge of ground support methods for surface mine/quarry excavations.

SPECIFIC OUTCOME 2

Select method and prepare for the support installation.

SPECIFIC OUTCOME 3

Install the ground support.

SPECIFIC OUTCOME 4

Maintain the support.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Operate Tractor Loader Backhoe

SAQA US ID	UNIT STANDARD TITLE		
257028	Operate Tractor Loader Backhoe		
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	13

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
119967	Operate Tractor Loader Backhoe	Level 1	6	Will occur as soon as 257028 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding operating the Tractor Loader Backhoe.

SPECIFIC OUTCOME 2

Prepare to operate the Tractor Loader Backhoe.

SPECIFIC OUTCOME 3

Operate the Tractor Loader Backhoe.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the loading operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Pump water using a De-watering Pump

SAQA US ID	UNIT STANDARD TITLE		
257029	Pump water using a De-watering Pump		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11125	Pump water using an Electrical De-watering Pump	Level 1	1	Will occur as soon as 257029 is registered

SPECIFIC OUTCOME 1

Demonstrate knowledge and understanding regarding pumping water using a de-watering pump.

SPECIFIC OUTCOME 2

Prepare to pump water.

SPECIFIC OUTCOME 3

Pump water.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the de-watering operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Elective 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Assist blasting operations

SAQA US ID	UNIT STANDARD TITLE		
257030	Assist blasting operations		
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

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of explosives and accessories.

SPECIFIC OUTCOME 2

Prepare to charge shot holes.

SPECIFIC OUTCOME 3

Charge shot holes.

SPECIFIC OUTCOME 4

Complete the duties pertaining to assistance in blasting operations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Load, Haul and Dump material using a front end loader***

SAQA US ID	UNIT STANDARD TITLE		
257031	Load, Haul and Dump material using a front end 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	16

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding loading, hauling and dumping material using a front end loader.

SPECIFIC OUTCOME 2

Prepare to load material using a front end loader.

SPECIFIC OUTCOME 3

Load, haul and dump material using a front end loader.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the loading, hauling and dumping operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Load material using a face shovel***

SAQA US ID		UNIT STANDARD TITLE	
257032		Load material using a face shovel	
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	26

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
9704	Load material using Rope Face Shovel	Level 2	26	Will occur as soon as 257032 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding loading material using a face shovel.

SPECIFIC OUTCOME 2

Prepare to load material.

SPECIFIC OUTCOME 3

Load material.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the loading operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate an understanding of support methods in surface mines and quarries***

SAQA US ID	UNIT STANDARD TITLE		
257033	Demonstrate an understanding of support methods in surface mines and quarries		
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

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of factors that influence stability of an excavation.

SPECIFIC OUTCOME 2

Demonstrate an understanding of methods to ensure slope stability in Quarry and Surface mine excavations.

SPECIFIC OUTCOME 3

Explain the principles of support in Surface mines and quarries.

SPECIFIC OUTCOME 4

Monitor support performance.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Load and offload material using a skid steer loader

SAQA US ID	UNIT STANDARD TITLE		
257034	Load and offload material using a skid steer 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	9

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11018	Operate a Skid Steer Loader	Level 1	4	Will occur as soon as 257034 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding loading and offloading material using a skid steer loader.

SPECIFIC OUTCOME 2

Prepare to load material using a skid steer loader.

SPECIFIC OUTCOME 3

Load material using a skid steer loader.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the loading and offloading operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Load, haul and dump material using a scraper

SAQA US ID	UNIT STANDARD TITLE		
257035	Load, haul and dump material using a scraper		
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	12

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding load, haul and dump material using a scraper.

SPECIFIC OUTCOME 2

Prepare to load, haul and dump material using a scraper.

SPECIFIC OUTCOME 3

Load, haul and dump material using a scraper.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the load, haul and dump operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate a basic understanding of explosives and accessories

SAQA US ID	UNIT STANDARD TITLE		
257036	Demonstrate a basic understanding of explosives 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

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Identify explosives and accessories.

SPECIFIC OUTCOME 2

Demonstrate understanding of the application of explosives and accessories in surface excavations.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the handling of explosives.

SPECIFIC OUTCOME 4

Adhere to Occupational Health and Safety requirements.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Carry out secondary breaking using explosives in surface excavations

SAQA US ID	UNIT STANDARD TITLE		
257037	Carry out secondary breaking using explosives in surface excavations		
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	11

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
116666	Carry out secondary breaking using explosives	Level 3	11	Will occur as soon as 257037 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding of secondary breaking.

SPECIFIC OUTCOME 2

Prepare for secondary blasting.

SPECIFIC OUTCOME 3

Conduct secondary blasting operations.

SPECIFIC OUTCOME 4

Carry out post blast procedures.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Use a track dozer to move material

SAQA US ID	UNIT STANDARD TITLE		
257038	Use a track dozer to move material		
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	14

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11016	Doze material using a Track Dozer with mass exceeding 30 000 kg	Level 2	16	Will occur as soon as 257038 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding dozing material using a track dozer.

SPECIFIC OUTCOME 2

Prepare to move material using a track dozer.

SPECIFIC OUTCOME 3

Move material using a track dozer.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the dozing operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Blast materials in Surface excavations

SAQA US ID	UNIT STANDARD TITLE		
257039	Blast materials in Surface excavations		
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	15

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
230012	Blast materials in quarry operations	Level 3	15	Will occur as soon as 257039 is registered

SPECIFIC OUTCOME 1

Explain the blasting operations and requirements.

SPECIFIC OUTCOME 2

Prepare to conduct blasting operations.

SPECIFIC OUTCOME 3

Charge up and initiate the blast.

SPECIFIC OUTCOME 4

Treat and blast misfires.

SPECIFIC OUTCOME 5

Destroy old explosives.

SPECIFIC OUTCOME 6

Conduct post-blasting operations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

De-water blast holes using vehicle mounted de-watering pump

SAQA US ID	UNIT STANDARD TITLE		
257040	De-water blast holes using vehicle mounted de-watering pump		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11667	De-water blast holes using Vehicle Mounted De-watering Pump	Level 1	4	Will occur as soon as 257040 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding de-watering of blast holes using a vehicle mounted de-watering pump.

SPECIFIC OUTCOME 2

Prepare to de-water blast holes.

SPECIFIC OUTCOME 3

De-water blast holes.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the de-watering operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Elective 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Bar down loose rocks using appropriate equipment***

SAQA US ID	UNIT STANDARD TITLE		
257041	Bar down loose rocks using appropriate 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	4

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
120443	Bar down loose rocks using appropriate equipment	Level 3	3	Will occur as soon as 257041 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding Bar down loose rocks using appropriate equipment.

SPECIFIC OUTCOME 2

Prepare to bar down loose rocks.

SPECIFIC OUTCOME 3

Bar down loose rocks.

SPECIFIC OUTCOME 4

Monitor barring operations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:*Install and maintain an initiating system in a surface mine*

SAQA US ID	UNIT STANDARD TITLE		
257042	Install and maintain an initiating system in a surface 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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
120436	Install and maintain an initiating system in a surface mine	Level 2	2	Will occur as soon as 257042 is registered

SPECIFIC OUTCOME 1

Explain the specified requirements pertaining to the installation and maintenance of an initiating system.

SPECIFIC OUTCOME 2

Prepare to install and maintain an initiating system.

SPECIFIC OUTCOME 3

Install and maintain an initiating system.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the installation and maintenance of an initiating system.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Identify and demarcate misfires in a surface excavation

SAQA US ID	UNIT STANDARD TITLE		
257055	Identify and demarcate misfires in a surface excavation		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
120441	Identify and demarcate a misfire in a surface mine	Level 2	2	Will occur as soon as 257055 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding identification and demarcation of misfires.

SPECIFIC OUTCOME 2

Prepare to identify and demarcate misfires.

SPECIFIC OUTCOME 3

Identify and demarcate misfires.

SPECIFIC OUTCOME 4

Complete the duties pertaining to identification and demarcation of misfires.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Remove hazardous ground by means of blasting

SAQA US ID	UNIT STANDARD TITLE		
257056	Remove hazardous ground by means of blasting		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
9714	Remove hazardous ground by means of blasting	Level 2	1	Will occur as soon as 257056 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding the removal of hazardous ground by means of blasting.

SPECIFIC OUTCOME 2

Prepare to remove hazardous ground by means of blasting.

SPECIFIC OUTCOME 3

Remove hazardous ground by means of blasting.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the removal of hazardous ground by means of blasting.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Read and interpret surface excavation plans

SAQA US ID	UNIT STANDARD TITLE		
257057	Read and interpret surface excavation plans		
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	2

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Understand the surface excavation plan layout and features.

SPECIFIC OUTCOME 2

Interpret surface excavation plans.

SPECIFIC OUTCOME 3

Record data on plans.

SPECIFIC OUTCOME 4

Perform relevant calculations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Time and connect blast initiating systems

SAQA US ID	UNIT STANDARD TITLE		
257058	Time and connect blast initiating systems		
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

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of explosives handling, transport and storage.

SPECIFIC OUTCOME 2

Explain the specified requirements pertaining to the installation and maintenance of an initiating system.

SPECIFIC OUTCOME 3

Prepare to connect blast initiating system.

SPECIFIC OUTCOME 4

Install the blast initiating system and time the blast.

SPECIFIC OUTCOME 5

Perform post-installation activities.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Prepare and mark off work area for drilling

SAQA US ID		UNIT STANDARD TITLE	
257059		Prepare and mark off work area for drilling	
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	3

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11128	Prepare and mark off work area for drilling	Level 2	1	Will occur as soon as 257059 is registered

SPECIFIC OUTCOME 1

Demonstrate knowledge and understanding regarding marking off a work area for drilling.

SPECIFIC OUTCOME 2

Prepare to mark off drill holes.

SPECIFIC OUTCOME 3

Mark off drill holes.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the marking off operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Suppress dust using a water bowser***

SAQA US ID		UNIT STANDARD TITLE	
257060		Suppress dust using a water bowser	
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	10

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding suppressing dust using a water bowser.

SPECIFIC OUTCOME 2

Prepare to suppress dust using a water bowser.

SPECIFIC OUTCOME 3

Suppress dust using a water bowser.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the dust suppressing operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Design blasts for surface excavations

SAQA US ID	UNIT STANDARD TITLE		
257075	Design blasts for surface excavations		
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 4	24

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
230016	Design blasts for quarry operations	Level 4	24	Will occur as soon as 257075 is registered

SPECIFIC OUTCOME 1

Explain legal requirements relating to blasting in surface excavations.

SPECIFIC OUTCOME 2

Explain the types, application and selection of explosives, initiation systems and accessories used and required in surface excavations.

SPECIFIC OUTCOME 3

Explain the drilling equipment required and their applications in surface excavations.

SPECIFIC OUTCOME 4

Explain the factors influencing blast design and their impacts on surface excavations.

SPECIFIC OUTCOME 5

Design safe and efficient blasting.

SPECIFIC OUTCOME 6

Estimate the likely environmental effects of the blasts.

SPECIFIC OUTCOME 7

Monitor the blasting performances and take appropriate actions.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Elective 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Excavate and load material using hydraulic excavator

SAQA US ID	UNIT STANDARD TITLE		
257076	Excavate and load material using hydraulic excavator		
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	26

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
9705	Excavate and load material using Hydraulic Excavator with mass not exceeding 50000 Kg	Level 2	26	Will occur as soon as 257076 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding the excavation and loading of material using a hydraulic excavator.

SPECIFIC OUTCOME 2

Prepare to and excavate material.

SPECIFIC OUTCOME 3

Excavate and load material.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the excavating and loading operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Illuminate an area using a lighting plant

SAQA US ID		UNIT STANDARD TITLE	
257077		Illuminate an area using a lighting plant	
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11698	Illuminate an area using a Lighting Plant	Level 1	1	Will occur as soon as 257077 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding illuminating an area using a lighting plant.

SPECIFIC OUTCOME 2

Prepare to illuminate an area.

SPECIFIC OUTCOME 3

Illuminate an area using a lighting plant.

SPECIFIC OUTCOME 4

Complete the duties pertaining to illumination.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Examine and make safe blasted Surface excavations

SAQA US ID	UNIT STANDARD TITLE		
257078	Examine and make safe blasted Surface excavations		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
115535	Examine and make safe blasted quarry excavations	Level 3	5	Will occur as soon as 257078 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding of significant risk of falls of ground in surface excavations.

SPECIFIC OUTCOME 2

Examine blasted surface excavations plus dumps and stockpiles.

SPECIFIC OUTCOME 3

Declare safe blasted surface excavations; dumps and stockpiles.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Carry out basic surveying and calculations in surface excavations***

SAQA US ID	UNIT STANDARD TITLE		
257095	Carry out basic surveying and calculations in surface excavations		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
230014	Carry out basic surveying and calculations in quarries	Level 3	8	Will occur as soon as 257095 is registered

SPECIFIC OUTCOME 1

Explain basic surveying practices in surface excavations.

SPECIFIC OUTCOME 2

Perform basic surveying tasks.

SPECIFIC OUTCOME 3

Transfer data from excavation plans into the field.

SPECIFIC OUTCOME 4

Conduct basic calculations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Grade material using a motor grader***

SAQA US ID		UNIT STANDARD TITLE	
257115		Grade material using a motor grader	
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	14

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding grading material using a Motor Grader.

SPECIFIC OUTCOME 2

Prepare to grade material.

SPECIFIC OUTCOME 3

Grade material.

SPECIFIC OUTCOME 4

Complete the duties pertaining to the grading operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	62869	National Certificate: Rockbreaking: Surface Excavations	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Transport and distribute fuel using a Fuel Bowser***

SAQA US ID	UNIT STANDARD TITLE		
257135	Transport and distribute fuel using a Fuel Bowser		
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

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11697	Transport and distribute fuel using Off-Highway Fuel Bowser	Level 1	4	Will occur as soon as 257135 is registered

SPECIFIC OUTCOME 1

Demonstrate an understanding regarding transporting and distribution of fuel.

SPECIFIC OUTCOME 2

Prepare to transport and distribute fuel.

SPECIFIC OUTCOME 3

Transport and distribute fuel using fuel bowser.

SPECIFIC OUTCOME 4

Monitor the duties pertaining to the distribution and transportation of fuel.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Task Team for

Security

convened by Organising Field 08, Law Military Science and Security, publishes the following Unit Standards for public comment.

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

Comment on the Unit Standards should reach SAQA at the address below and ***no later than 8 September 2008***. All correspondence should be marked **Standards Setting – Task Team for Security** and addressed to

The Director: Standards Setting and Development

SAQA

Attention: Mr. D Mphuthing

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431-5144

e-mail: dmphuthing@saqa.org.za

DR. S. BHIKHA

DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Deal with armed robbery incidents***

SAQA US ID		UNIT STANDARD TITLE	
257255		Deal with armed robbery incidents	
ORIGINATOR		PROVIDER	
SGB Security			
FIELD		SUBFIELD	
8 - Law, Military Science and Security		Safety in Society	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	2

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Apply preventative measures in order to reduce the likelihood of an armed robbery occurring.

SPECIFIC OUTCOME 2

React appropriately to armed robbery incidents.

SPECIFIC OUTCOME 3

Follow armed robbery post-event procedures.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate an understanding of security in retail, wholesale and related distribution environments

SAQA US ID	UNIT STANDARD TITLE		
257256	Demonstrate an understanding of security in retail, wholesale and related distribution environments		
ORIGINATOR		PROVIDER	
SGB Security			
FIELD		SUBFIELD	
8 - Law, Military Science and Security		Safety in Society	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	6

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Explain the fundamental theory of retail and distribution security.

SPECIFIC OUTCOME 2

Deal with safety threats in a retail or distribution environment.

SPECIFIC OUTCOME 3

Provide customer service in a retail or distribution environment.

SPECIFIC OUTCOME 4

Explain the handling of suspects in a retail or distribution environment.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Provide security response services***

SAQA US ID	UNIT STANDARD TITLE		
257257	Provide security response services		
ORIGINATOR	PROVIDER		
SGB Security			
FIELD	SUBFIELD		
8 - Law, Military Science and Security	Safety in Society		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Prepare for response duties.

SPECIFIC OUTCOME 2

Explain the factors that contribute towards service delivery.

SPECIFIC OUTCOME 3

Maintain a visible presence in designated area.

SPECIFIC OUTCOME 4

Respond to a variety of security related signals.

SPECIFIC OUTCOME 5

Perform auxiliary response services.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None

No. 823

8 August 2008

**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

Medical Laboratory Assistants

registered by Organising Field 09 – Health Sciences and Social Services, 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.saq.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 8 September 2008**. All correspondence should be marked **Standards Setting – Medical Laboratory Assistants** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: Mr. D. Mphuthing
Postnet Suite 248
Private Bag X06
Waterkloof
0145

or faxed to 012 – 431-5144
e-mail: dmphuthing@saqa.org.za

DR. S. BHIKHA
DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: Medical Laboratory Assistance

SAQA QUAL ID	QUALIFICATION TITLE		
63189	National Certificate: Medical Laboratory Assistance		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	9 - Health Sciences and Social Services	Promotive Health and Developmental Services	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	129	Level 3	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION**Purpose:**

This Qualification is intended for learners who work in a medical laboratory and who may be required to receive various types of human tissue samples for laboratory analysis, to prepare for pre-and post-analytical processing of laboratory samples, and/or to apply the fundamental principles of blood transfusion component preparation, distribution and fractionation.

Learners credited with this qualification will be capable of:

- > Identifying and solving problems related to the handling of human tissue samples.
- > Preparing various types of human tissue samples for pre-and post-analytical testing.
- > Interacting professionally with clients, including members of the multidisciplinary health team.

The successful completion of this Qualification will enable a qualified learner to be registered with the Health Professions Council of South Africa (HPCSA) as a Medical Laboratory Assistant.

Rationale:

A sizeable number of present employees within the medical laboratory sector have educational backgrounds that place them between NQF Levels 1 and 3 and are thus generally defined as "semi-skilled". Laboratory assistants are included in this category. Findings indicate that some employees in this category have gained experience and expertise in the workplace, neither of which is formally recognised. Laboratory assistants, once qualified, will be an asset in various departments of a medical laboratory and this Qualification would be the groundwork for further advancement. Furthermore, this Qualification will act as the mechanism for setting standards of performance, thus enhancing quality control within the industry.

This Qualification will contribute to the full development of the learner by providing recognition, further mobility and portability within the field of medical technology. The skills, knowledge and understanding demonstrated within this Qualification are essential for social and economic transformation and upliftment within the medical technology environment as well as contributing to alleviating the skills shortage in the country.

This Qualification also forms one of the bouquets of health services which require enhancement in order to meet the increasing demand for available health services from the ever growing numbers of foreign visitors to our country.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED IN PLACE

- > Communication skills at NQF Level 2.
- > Mathematical Literacy at NQF Level 2.

Recognition of Prior Learning:

This Qualification may be achieved wholly, or in part, through recognition of prior learning. Evidence may be presented in a variety of forms, including previous international or local qualifications, reports, testimonials, portfolios, work records and performance appraisals.

Learners who have met the requirements of a Unit Standard that forms part of this qualification may apply for recognition of prior learning to the relevant Education and Training Quality Assurance (ETQA) body or ETQA that has a Memorandum of Understanding in place with the relevant ETQA. The applicant will be assessed in terms of the relevant specific outcomes and related assessment criteria.

QUALIFICATION RULES

- > All 36 Fundamental Component credits are compulsory.
- > All 67 Core Component credits Unit are compulsory.
- > At least 26 of the Elective Component credits must be attained.

Minimum number of credits to be attained: 129.

Course Requirements:

The learner is required to be registered with HPCSA as a Student Medical Laboratory Assistant for the duration of the period of learning.

EXIT LEVEL OUTCOMES

1. Identify and solve problems related to the handling of human tissue samples.
> Range: Handling includes receiving, recording, processing dispatching and storing.
2. Prepare various types of human tissue samples for pre- and post-analytical testing.
3. Interact professionally with clients including members of the multidisciplinary health care team.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, in the indicated Exit Level Outcomes:

- > Identifying and solving problems are indicated in the assessment of human tissue samples received and the processing or the replacement of damaged or inadequate samples submitted.
- > Working effectively with others as a member of a team, group, organisation or community is indicated in the maintenance of the quality cycle, adequate communication and the adherence to standard operating procedures.

- > Responsible and effective organisation and management of self is shown in the throughput and output of human tissue samples and the submission of timeous reports of test results to the requestors.
- > Collating information is indicated by the output of samples and the successful submission of reports.
- > Effective communication is indicated in the maintenance of the quality cycle and the successful processing of human tissue samples.
- > Science and technology are effectively utilized throughout the laboratory, the success of which is indicated in the timeous completion of a sample test report.
- > Understanding the world as a set of related systems is demonstrated through team work and proper application of customer care to both internal and external clients
- > All of the above contribute to the full personal development of the learner and encourage the learner to learn more.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit-Level-Outcomes 1:

- 1.1 All samples are handled according to the protocols for infectious diseases, including HIV/AIDS, to ensure safe working conditions for self and colleagues.
- 1.2 Data pertaining to human tissue samples is recorded, stored and/or dispatched as required by the Standard Operating Procedures.
- 1.3 Damaged or inadequate samples are removed from the processing chain and new samples are requested.
- 1.4 Procedures such as pipetting, centrifuging and sample storing are performed in a manner which ensures a quality cycle.

Associated Assessment Criteria for Exit-Level-Outcomes 2:

- 2.1 A safe working environment is maintained and, in the event of an accident or spill, appropriate action is taken and explained.
- 2.2 Samples are appropriately prepared for analysis, storage or transportation to the relevant processing department.
- 2.3 Pathology samples are handled in a manner that ensures sample content integrity.

Associated Assessment Criteria for Exit-Level-Outcomes 3:

- 3.1 Medical ethical guidelines and professional rules are applied at all times - both with internal and external clients.
- 3.2 Communication with all clients is clear and unambiguous to ensure understanding by the client.
- 3.3 Information is correctly retrieved and shared by using the existing organisational database.
- 3.4 Strict data capture is maintained and timeous reports are submitted.

Integrated Assessment:

Learners may be credited for individual unit standards as and when they can demonstrate that they can achieve the required competencies.

Workplace experience may be recognised when assessing this qualification.

A range of formative and summative methods may be used in assessing learners, which may include:

- > Written and oral tests/examinations.
- > Case studies and assignments.
- > Role-play and simulation sessions.

- > Written reports/work plans.
- > Demonstrations by the learner.
- > Research projects.

Formative assessment should be carried out at regular intervals throughout the period of study. It should be offered in an integrated manner where the theoretical and practical components are assessed together to measure learner competence.

Summative assessment is carried out on completion of all learning components required for the Qualification, whether theoretical or practical.

INTERNATIONAL COMPARABILITY

This qualification was compared to similar qualifications in England, Australia, USA & Canada. They all have the equivalent of the laboratory assistant, variously classified as laboratory assistants, clerks, pathology aids and aliquoters / wanders. The training is basically in-house, although USA & Canada do have some formal training courses.

England:

Medical Laboratory Assistants (or Biomedical Support Workers), don't get any formal training. Trainees are given mostly on-the-job training, starting with general safety instructions and how the job role fits in the day to day working of the hospital. Trainees then move on to specialised individual training. Certificates of Competence can be awarded for the safe performance of various duties. The Institute of Biomedical Sciences (IBMS) produces a training manual for Medical Laboratory Assistants (MLA) staff and laboratories modify it to suit their particular requirement. It's the responsibility of the MLA to get this signed off as they rotate through the lab. It is a good record of their achievements. MLAs who work in the blood transfusion department are governed by certain guidelines from the British Blood Transfusion Society.

Australia:

Pathology aids and aliquoters / wanders don't get any formal training. Trainees are given on-the-job training by their supervisors. Training logs are completed as each competency is acquired.

USA:

College training is offered for the MLA. This training compares well to our qualification:

MLAB 1101 INTRODUCTION TO CLINICAL LABORATORY SCIENCE (1-1-0). An introduction to clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation, certification, professionalism, and ethics.

MLAB 1201 INTRODUCTION TO CLINICAL LABORATORY SCIENCE FOR MEDICAL ASSISTANTS (2-1-4). An introduction to clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation and certification. The University training offered contains some relevant sections, but a fair amount compares more to our Medical Laboratory Technicians who perform testing.

Core Courses

- MLAP 112 Anatomy, Physiology and Medical Terminology (Yes)
- MLAP 113 The Electrocardiogram (Definitely not)
- MLAP 121 Professional and Safety Issues (Yes)
- MLAP 131 Laboratory Procedures and Protocols (Yes, but not analysis part)
- MLAP 051 Phlebotomy Workshop (Definitely not)
- MLAP 141 Evaluation of Competencies (Yes)

Optional Advanced Courses

MLAP 151 General Pre-Analytical Specimen Preparation (Yes, but not performing urinalysis or the collection of micro specimens)

MLAP 161 Pre-Analytical Histo-Pathology (Yes, but not the actual processing of the samples)

Canada:

There are many institutions offering MLA courses, including Career Canada and some community colleges. They receive a certificate if they pass the course. Some can also be trained on-site. It is not regulated at this time.

This qualification was also compared to Nigeria, Namibia, Saudi Arabia, Ethiopia, Angola & United Arab Emirates (UAE). Some of these countries do not have the equivalent of the laboratory assistant. The training is basically in-house, although Ethiopia & UAE do have some formal training courses.

Nigeria:

O' Level holders are given apprenticeship in a laboratory and can become Lab Assistants.

Namibia:

Laboratory assistants have been largely phased out. No formal training courses were offered as the type of work they did was too varied to offer a specific training course. They have expressed interest in our course.

Saudi Arabia:

No training courses for MLAs are offered.

Ethiopia:

Most of the current lab assistants are trained in-house, informally. Recently, the government has allowed Health Colleges to offer a one and two year certificate programmes in laboratory technology and nursing and successful learners are certified as assistant laboratory technicians and nurse aids respectively when they graduate.

The middle level TVET programme, year 1 - less than 50% of the course is applicable to our laboratory assistant, it is more applicable to our medical technician.

The middle level TVET programme, year 2 - less than 20% of the course is applicable to our laboratory assistant, it is more applicable to our medical technician.

Angola:

Laboratory personnel must have at least a 12 Grade qualification with 1 or 2 years technical graduation in a laboratory. It would appear that Angola does not make use of laboratory assistants, as this level of qualification is much higher than ours. They have also expressed interest in our course.

United Arab Emirates:

The Higher Colleges of Technology offer a Diploma in Laboratory Technology - about 50% of the year 1 courses are similar to ours (Introduction to Human Life Science Laboratory Math, some of the Basic Laboratory Techniques, Personal & Professional Development I and Medical Terminology), but only about 10% of the year 2 courses are similar (Materials Control & Data Management and Laboratory Maintenance)

Conclusion:

The National Certificate: Medical Laboratory Assistance, Level 3 compares favourably with what little formal training is offered internationally and in particular is aligned with the MLAB 1101 college training offered in the USA. Differences between international practice and the contents of the National Certificate: Medical Laboratory Assistance relate to South African legislative and statutory limitations on laboratory assistant practice.

This qualification meets the needs of the medical laboratories in South Africa and it is envisaged that this qualification would be applicable in any developing country, especially in the SADC region.

ARTICULATION OPTIONS

Horizontally, this Qualification articulates with:

- > ID 50062: National Certificate: Occupational Hygiene and Safety, NQF Level 3.
- > ID 49992: National Certificate: Auxiliary Nursing, NQF Level 3.

Vertically, this Qualification articulates with:

- > ID 59345: Further Education and Training Certificate: Phlebotomy Techniques, NQF Level 4.
- > 16166: National Certificate: Biotechnology, NQF Level 5.

MODERATION OPTIONS

> Anyone assessing a learner against this qualification must be accredited as an assessor with the relevant Education and Training Quality Assurance body (ETQA) or with an ETQA that has a Memorandum of Understanding in place with the relevant ETQA.

> Any institution offering learning against this qualification must be accredited as a provider with the relevant ETQA or with an ETQA that has a Memorandum of Understanding in place with the relevant ETQA.

> Anyone moderating learners against this qualification must be proficient in the subject matter included in this Qualification at a Level above that of this Qualification and must be accredited as a moderator with the relevant ETQA or with an ETQA that has a Memorandum of Understanding in place with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation Body.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

N/A

NOTES

N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	4
Fundamental	119457	Interpret and use information from texts	Level 3	5

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	9012	Investigate life and work related problems using data and probabilities	Level 3	5
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Core	257201	Apply quality practice in a medical laboratory	Level 3	10
Core	257195	Chronicle interactions in a medical laboratory	Level 3	18
Core	13915	Demonstrate knowledge and understanding of HIV/AIDS in a workplace, and its effects on a business sub-sector, own organisation and a specific workplace	Level 3	4
Core	257196	Handle samples in a centralised sample reception area	Level 3	20
Core	119078	Use a GUI-based word processor to enhance a document through the use of tables and columns	Level 3	5
Core	252170	Apply the principles of customer care in client interactions	Level 4	5
Core	252401	Comply with safety requirements in the medical pathology and blood transfusion fields	Level 4	5
Elective	14342	Manage time and work processes within a business environment	Level 2	4
Elective	116945	Use electronic mail to send and receive messages	Level 2	2
Elective	257199	Fractionate blood products for transfusion	Level 3	12
Elective	257216	Handle biological specimens for immunochemistry analysis in a medical laboratory	Level 3	8
Elective	257198	Handle biological specimens for processing in a histopathology laboratory	Level 3	13
Elective	257197	Handle biological specimens in a haematology laboratory	Level 3	6
Elective	257200	Handle blood components for transfusion	Level 3	13
Elective	13934	Plan and prepare meeting communications	Level 3	4
Elective	257202	Process human tissue specimens for testing in a cytology laboratory	Level 3	12
Elective	257215	Receive and prepare specimens for microbiological analysis and prepare culture media in a medical laboratory	Level 3	24

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION**None**



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Chronicle interactions in a medical laboratory***

SAQA US ID		UNIT STANDARD TITLE	
257195		Chronicle interactions in a medical laboratory	
ORIGINATOR		PROVIDER	
SGB Medical Laboratory Assistants			
FIELD		SUBFIELD	
9 - Health Sciences and Social Services		Promotive Health and Developmental Services	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	18

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Record specimen, patient/donor details and make relevant labels.

SPECIFIC OUTCOME 2

Compile documents for specimen dispatch and batching.

SPECIFIC OUTCOME 3

File, make enquiries/retrievals and issue documentation.

SPECIFIC OUTCOME 4

Communicate information effectively.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Handle samples in a centralised sample reception area***

SAQA US ID	UNIT STANDARD TITLE		
257196	Handle samples in a centralised sample reception area		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
FIELD	SUBFIELD		
9 - Health Sciences and Social Services	Promotive Health and Developmental Services		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	20

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Receive and verify suitability of samples in a sample reception area.

SPECIFIC OUTCOME 2

Prepare samples for dispatch.

SPECIFIC OUTCOME 3

Store, retrieve and discard samples.

SPECIFIC OUTCOME 4

Complete required laboratory records.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Handle biological specimens in a haematology laboratory***

SAQA US ID	UNIT STANDARD TITLE		
257197	Handle biological specimens in a haematology laboratory		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
FIELD	SUBFIELD		
9 - Health Sciences and Social Services	Promotive Health and Developmental Services		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Receive and prepare biological specimens in the receiving area of haematology.

SPECIFIC OUTCOME 2

Operate and maintain laboratory apparatus.

SPECIFIC OUTCOME 3

Perform various staining procedures.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Handle biological specimens for processing in a histopathology laboratory

SAQA US ID	UNIT STANDARD TITLE		
257198	Handle biological specimens for processing in a histopathology laboratory.		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
FIELD	SUBFIELD		
9 - Health Sciences and Social Services	Promotive Health and Developmental Services		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	13

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Receive, record and label specimens.

SPECIFIC OUTCOME 2

Prepare specimens for processing and distribute slides for screening.

SPECIFIC OUTCOME 3

Operate and maintain laboratory equipment.

SPECIFIC OUTCOME 4

Prepare, store, replace and discard specified reagents and stains used in the Histology Laboratory.

SPECIFIC OUTCOME 5

File, retrieve and/or discard specimens after processing.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Elective 63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Fractionate blood products for transfusion

SAQA US ID	UNIT STANDARD TITLE		
257199	Fractionate blood products for transfusion		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
FIELD	SUBFIELD		
9 - Health Sciences and Social Services	Promotive Health and Developmental Services		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	12

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Handle packs of blood components for fractionation.

SPECIFIC OUTCOME 2

Prepare the fractionated product.

SPECIFIC OUTCOME 3

Inspect and package fractionated product.

SPECIFIC OUTCOME 4

Operate fractionation plant equipment.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Handle blood components for transfusion

SAQA US ID	UNIT STANDARD TITLE		
257200	Handle blood components for transfusion		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
FIELD	SUBFIELD		
9 - Health Sciences and Social Services	Promotive Health and Developmental Services		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	13

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Operate and maintain laboratory equipment.

SPECIFIC OUTCOME 2

Demonstrate knowledge of temperature conditions and controls.

SPECIFIC OUTCOME 3

Receive and prepare Blood Transfusion Components.

SPECIFIC OUTCOME 4

Check, label, store and distribute Blood Transfusion Components.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Apply quality practice in a medical laboratory***

SAQA US ID	UNIT STANDARD TITLE		
257201	Apply quality practice in a medical laboratory		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
FIELD	SUBFIELD		
9 - Health Sciences and Social Services	Promotive Health and Developmental Services		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	10

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of laboratory measuring systems.

SPECIFIC OUTCOME 2

Comply with total quality management (TQM).

SPECIFIC OUTCOME 3

Control stock in the workplace.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Process human tissue specimens for testing in a cytology laboratory***

SAQA US ID	UNIT STANDARD TITLE		
257202	Process human tissue specimens for testing in a cytology laboratory		
ORIGINATOR	PROVIDER		
SGB Medical Laboratory Assistants			
FIELD	SUBFIELD		
9 - Health Sciences and Social Services	Promotive Health and Developmental Services		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	12

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Receive, sort, store and discard human tissue specimens in a cytology laboratory.

SPECIFIC OUTCOME 2

Label, preserve and stain slides for microscopic identification.

SPECIFIC OUTCOME 3

Operate and maintain laboratory equipment.

SPECIFIC OUTCOME 4

Prepare stock and working solution for staining.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Receive and prepare specimens for microbiological analysis and prepare culture media in a medical laboratory

SAQA US ID		UNIT STANDARD TITLE	
257215		Receive and prepare specimens for microbiological analysis and prepare culture media in a medical laboratory	
ORIGINATOR		PROVIDER	
SGB Medical Laboratory Assistants			
FIELD		SUBFIELD	
9 - Health Sciences and Social Services		Promotive Health and Developmental Services	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	24

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Receive specimens in a microbiology laboratory.

SPECIFIC OUTCOME 2

Prepare specimens aseptically and incubate inoculated culture plates for analysis.

SPECIFIC OUTCOME 3

Operate and maintain laboratory apparatus.

SPECIFIC OUTCOME 4

Stain pre-prepared slides for microscopic examination.

SPECIFIC OUTCOME 5

Prepare media for use in specimen processing.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	63189	National Certificate: Medical Laboratory Assistance	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Handle biological specimens for immunochemistry analysis in a medical laboratory

SAQA US ID		UNIT STANDARD TITLE					
257216		Handle biological specimens for immunochemistry analysis in a medical laboratory					
ORIGINATOR		PROVIDER					
SGB Medical Laboratory Assistants							
FIELD		SUBFIELD					
9 - Health Sciences and Social Services		Promotive Health and Developmental Services					
ABET BAND		UNIT STANDARD TYPE		NQF LEVEL		CREDITS	
Undefined		Regular		Level 3		8	

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Process biological specimens in the receiving area of a particular department.

SPECIFIC OUTCOME 2

Aliquot specimens into other tubes.

SPECIFIC OUTCOME 3

Operate and maintain laboratory apparatus.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	63189	National Certificate: Medical Laboratory Assistance	Level 3