

**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 29 February 2008**. All correspondence should be marked **Standards Setting – Mining and Minerals** and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Certificate: Mining Technical Support

SAQA QUAL ID		QUALIFICATION TITLE	
60349		National Certificate: Mining Technical Support	
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	125	Level 2	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 qualifying learners with the necessary skills, knowledge, understanding and competence, to competently and confidently assist a Surveyor, Geologist and Sampler in their specific fields related to surface and underground mining; as well as provide an opportunity for learners to apply appropriate skills in relation to the workplace.

The Surveying, Geology and Sampling technical support operations assistant is vital to the smooth running of these disciplines of the mining industry which covers a wide variety of fields such as Geological Exploration sampling, GPS surveying as well as structural mapping and hazard identification.

Learners achieving this qualification will be able to understand their role of applying required competencies consistently and effectively in the execution of their duties. They will also contribute to the mining technical services discipline by effectively adhering to quality and occupational safety requirements.

This qualification will have a positive impact on society through assisting in the identification and delineation of potential mineral deposits; as well as improve the health and safety of people in and outside the mining environment through input to hazard identification programmes and helping protect the environment during mine closure procedures.

Learners credited with this qualification will be able to:

- Communicate and solve problems in a variety of ways.
- Demonstrate an understanding of Occupational Health, Safety and Environmental standards in the workplace.
- Demonstrate an understanding of surveying, geological and sampling principles in a mining environment.
- Select and use surveying, geological and sampling equipment and tools.
- Perform tape measurements.

- Prepare and collect a sample.

Rationale:

Surveying, Geology and Sampling are recognised as generic key competencies in the development of basic skills in the South African mining industry through the identification and delineation of potential mineral deposits, development of mines and the safe, profitable and optimal exploitation of mining reserves. Quality standards within the mining industry have become of vital importance as efficiencies are maximised within the industry. Maintenance of such standards is a key component in Technical Support Operations training and serves to extend the life of mines.

The increasing complexity of SA mining has resulted in a greater need for skilled support in Surveying, Geological and Sampling input. These factors have been recognised and emphasis has been placed on providing such technical support training at all levels within these mining disciplines.

Learners entering this qualification will typically come from mining, survey, geology or sampling operations, working as Technical support assistants or stope face operators. In some cases learners will come from other industries such as soil science or civil engineering. Learners from other industries would, however, have to become familiar with the mining environment, equipment and processes before they can proceed with this qualification. Qualifying learners will be competent support technicians on NQF Level 2 in the Surveying, Geological and Sampling disciplines in all mining operations, which relates to assisting with underground or surface surveying and mapping, geological mapping and core logging and mineral sampling procedures. Learners will obtain the basic theoretical knowledge pertinent to these mining related environments. This qualification has 3 specialisation streams for learners to follow.

A typical learning pathway in this field would start with this qualification and proceed to the National Certificate: Minerals Technical Support, NQF Level 3. Learners would then progress onto a NQF Level 4 qualification in one of the specialisation areas namely Surveying, Geology or Sampling. The qualification is designed to be flexible and accessible so that learners are able to demonstrate the competencies in Surveying, Geology and Sampling Technical Support across the mining and minerals sectors.

This qualification will be a suitable and justified recognition for the skills and competencies of technical assistants who, to date, have been trained and developed on an informal basis only, with little chance of advancement. The associated status of a nationally recognised qualification will serve as a motivation for learners to further their skills by entering the fields of Surveying, Geology and Sampling. Current Surveying, Geology and Sampling technical assistants in particular will benefit from the opportunities of assessment and subsequent recognition presented by RPL (Recognition of Prior Learning).

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED IN PLACE

Communication and Mathematical Literacy at NQF Level 1.

Recognition of Prior Learning:

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

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

Access to the Qualification:

Access is open; however, it is preferable that learners have completed the GETC: Mining and Mineral Processes.

QUALIFICATION RULES

There are 3 specialisation areas possible:

- Specialisation Area A: Sampling.
- Specialisation Area B: Surveying.
- Specialisation Area C: Geology.

A minimum of 125 credits are required to complete the qualification. In this Qualification, credits are allocated as follows:

Fundamental:

- All 36 credits are compulsory.

Core:

- All 40 credits are compulsory.

Electives:

- 49 Elective credits as specified below must be achieved.

Note: The elective credits should be chosen in accordance with the requirements of the selected context and the interests of the learner.

For Specialisation Area A: Sampling.

The following unit standards totaling 22 credits must be achieved:

Title; NQF Level; Credits.

- Screen broken material to determine the particle size distribution; NQF Level 2; Credits 6.
- Quarter broken material to obtain a representative sample; NQF Level 2; Credits 4.
- Collect a face sample for the purpose of determining the content or quality of the mineral; NQF Level 3; Credits 5.
- Chip face sample sections from a mineral exposure for mineral evaluation purposes; NQF Level 2; Credits 5.
- Take a surface rock sample to obtain geological information on the outcrop material; NQF Level 3; Credits 3.

Total = 22.

A further 27 credits are to be chosen from the rest of the electives to make up a minimum of 125 credits for the qualification.

For Specialisation Area B: Surveying.

The following unit standards totaling 17 credits must be achieved:

Title; NQF Level; Credits.

- Attend to a survey point in an underground environment; NQF Level 2; Credits 5.
- Install an underground survey point; NQF Level 2; Credits 6.
- Plot tape and offset measurements on a plan; NQF Level 3; Credits 3.
- Establish a survey point; NQF Level 2; Credits 6.

Total = 17 Credits.

A further 32 credits are to be chosen from the rest of the electives to make up a minimum of 125 credits for the qualification.

For Specialisation Area C: Geology.

The following unit standards totaling 21 credits must be achieved:

Title; NQF Level; Credits.

- Assist in the geological mapping of an underground workplace; NQF Level 2; Credits 4.
- Prepare borehole core for logging and sampling purposes from core containers; NQF Level 3; Credits 3.
- Demonstrate an understanding of the Earth's internal structure and age; NQF Level 2; Credits 6.
- Prepare borehole cuttings for logging and sampling purposes from containers; NQF Level 2; Credits 3.
- Assist in a geological surface exploration mapping programme; NQF Level 2; Credits 5.

Total = 21 Credits.

A further 28 credits are to be chosen from the rest of the electives to make up a minimum of 125 credits for the qualification.

EXIT LEVEL OUTCOMES

1. Communicate and solve problems in a variety of ways.
2. Demonstrate an understanding of Occupational Health, Safety and Environmental standards in the workplace.
3. Demonstrate an understanding and application of surveying, geological and sampling principles in a mining environment.
4. Select and use surveying, geological and sampling equipment and tools.
5. Perform tape measurements.
6. Prepare and collect a sample.
7. Apply a selection of Surveying procedures.
- Or
8. Apply a selection of Sampling procedures.
- Or
9. Apply a selection of Geological procedures.

Critical Cross-Field Outcomes:

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

- Evidence in all Exit Level Outcome.

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

- Evidence in all Exit Level Outcome.

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

- Evidence in all Exit Level Outcome 2, 3, 5, 6, 7.

Collecting, analyzing, organizing and critically evaluating information.

- Evidence in all Exit Level Outcome 3, 4, 5, 6, 7.

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

- Evidence in all Exit Level Outcome 1.

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

- Evidence in all Exit Level Outcome 2, 3, 5, 6, 7.

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

- Evidence in all Exit Level Outcome 3.

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

- Reflecting on and exploring a variety of strategies to learn more effectively.
- Participating as responsible citizens in the life of local, national and global communities.
- Being culturally and aesthetically sensitive across a range of contexts.
- Exploring education and career opportunities.
- Developing entrepreneurial opportunities.

- Evidence in all Exit Level Outcome.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit level Outcome1:

- Effective verbal and written communication is demonstrated while performing the tasks related to conducting mineral technical support in mining operations.
- Information related to work tasks is accessed and interpreted from a range of written and oral sources to ensure that work requirements are understood.
- Information communicated is accurate and conveyed in accordance with acceptable timeframes.

- Principles and techniques of mathematics are applied while performing the tasks related to mineral technical support activities.
- Problems and solutions are recorded and monitored for reoccurrence.

Associated Assessment Criteria for Exit level Outcome2:

- Occupational Health, Safety and Environmental policies, procedures and requirements are adhered to at all times as per workplace requirements.
- Safe, healthy and environmentally related activities are conducted in a mineral technical support environment according to the Occupational Health, Safety and Environmental requirements.

Associated Assessment Criteria for Exit level Outcome 3:

- Surveying, geological and sampling concepts and principles are understood and explained in accordance with the workplace requirements.
- Principles of mineral deposits; stratigraphy; rock origin and, characteristics are explained in accordance with specified requirements.
- Measurements, map reading and interpretation requirements are explained and applied in accordance with work related standards.
- Processes and principles involved in the preparation of a borehole core for sampling and logging purposes are explained and applied in accordance with specified work requirements.
- Surveying, geological and sampling tasks are performed in accordance with the work requirements.

Associated Assessment Criteria for Exit level Outcome 4:

- Surveying, Geological and Sampling equipment and tools are identified and uses explained in accordance with equipment functionality and materials specifications.
- Tools and equipment are checked for condition prior to use.
- Faulty tools and equipment are identified and replaced or repaired as per manufacturer's standards.
- Surveying, Geological and Sampling tasks are conducted according to Mine Standard Procedures.

Associated Assessment Criteria for Exit level Outcome 5:

- Information is obtained from a plan in accordance with specified work related requirements.
- The positioning of a tape for measuring is performed in accordance with specified Working Guides.
- Tape and offset surveying is conducted in accordance with Mine Standard Procedures and Legal requirements.
- The Dip and strike of a plane is measured and recorded in the appropriate format according to standard procedures.

Associated Assessment Criteria for Exit level Outcome 6:

- Sample collection is conducted in accordance with specified Working Guides.
- The surface exploration process is explained and applied through the collection of appropriate samples for testing.
- The characteristics of different soil types and the impact on the sampling process is explained in accordance with work related requirements and standards.

Associated Assessment Criteria for Exit level Outcome 7:

- A survey point is established in accordance with Legal requirements.

- An underground survey point is installed in accordance with Legal requirements.
- A survey point is attended to in accordance with work related standards.
- Tape and offset measurements are plotted on a plan in accordance with Mine Standard Procedures and Legal requirements.

Or

Associated Assessment Criteria for Exit level Outcome 8:

- A face sample is collected for the purpose of determining the content or quality of a mineral.
- Broken material is screened to determine the particle size distribution of the sample.
- Broken material is quartered to obtain a representative sample of the initial material.
- Special samples are collected for mineral evaluation purposes in accordance with Mine Standard Procedures.
- A surface rock sample is taken to obtain geological information.

Or

Associated Assessment Criteria for Exit level Outcome 9:

- A borehole core is prepared from core containers for logging and sampling purposes in accordance with work related standards and requirements.
- Assistance is given in the Geological mapping of underground and surface workplaces in accordance with the work requirements and accepted standards.
- Principles of the earth's internal structure and its age are demonstrated in accordance with specified 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.

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

It is necessary to ensure that the fundamental part of the qualification is also targeted to ensure that while the competence may have been achieved in a particular context, learners are able to apply it in a range of other contexts and for 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 plating process.

INTERNATIONAL COMPARABILITY

When conducting research in terms of benchmarking the NC: Mining Technical Support Level 2 against qualifications elsewhere, the following was considered:

- 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 this particular field.
- SADEC countries, which are in geographical proximity to South Africa.
- Countries with emerging economies (particularly in the mining context).

Qualifications Frameworks:

Frameworks consulted were those of Australia, New Zealand, United Kingdom (Britain) and Scotland.

While conducting the research in this regard, no evidence could be found of a "technical support" qualification, i.e. a qualification combining geological, surveying and sampling services.

Evidence was however found of qualifications at a higher level, comparable to Diploma or Degree Level (Levels 5 and 6 respectively).

Leading Countries:

The fields of geology, surveying and sampling are common across the world, particularly in the mining context. There was no evidence suggesting that any particular country could be considered a leader in this regard.

Some of the countries included in the search were:

- Canada
- United

Courses found on these websites were at undergraduate level.

SADEC Countries:

No evidence of a relevant qualification was found for any of the SADEC countries.

Consultation with experienced mining engineers who have worked in Africa (SADEC countries) have confirmed that competencies relating to the NC Technical Support Level 2 qualification are normally acquired informally in the workplace, typically by workers assisting technical or professional people performing these tasks.

Where tasks related to this qualification are conducted formally, the responsible person would typically have a relevant degree or diploma from a recognised institution (university, technical college).

Qualifications and unit standards (competencies) found:

The following relevant qualifications and/or standards were found:

Columbia:

Online courses are being offered at the University of British Columbia.

Similar elements of competence were found and the outcomes of the courses match closely with the outcomes of the unit standards incorporated in this National Certificate Geology for the training of geological assistants, aides and operators.

The structure of the courses are similar, however, no judgement could be made on the level and depth of the courses as they are delivered on-line according to the pace of the learner.

Australia:

- MNCP1005 Conduct sampling operations.
- Packaged into various qualifications e.g. Certificate II in Surface Coal Operations.
- MNCG1000 Conduct Mine Surveying Operations.
- Packaged into Diploma of Mine Surveying.

New Zealand:

Geology: Although there is no qualification in this regard, a number of unit standards have been found:

Level 1:

- 18981: Demonstrate basic knowledge of weather.
- 18982: Demonstrate knowledge of Earth science.
- 18989: Demonstrate knowledge of Earth and space.
- 6356: Report on a geological resource in New Zealand.
- 6357: Identify common minerals and rocks.
- 6358: Describe the formation of major rock types and the rock cycle.

Level 2:

- 6360: Identify geological features from recorded visual information.
- 6361: Investigate and report on the geology in an area.
- 6362: Demonstrate an understanding of fossils.

Level 3:

- 21614: Describe the geological history of an area in the Southwest Pacific.
- 6364: Use plate tectonics to explain distribution of major NZ and Southwest Pacific geological features.
- 6365: Demonstrate knowledge of geological hazards.
- 8153: Explain factors affecting a water resource and its management, and plot and interpret hydrographs.

Level 4:

- 8140: Investigate, interpret and report on geological features, landforms and active processes of a site.
- 8145: Read geological maps and interpret geological history.
- 8147: Demonstrate a knowledge of the interior of the Earth.
- 8152: Collect water samples for analysis.

Level 5:

- 8137: Collect geophysical data and samples.
- 8138: Collect geotechnical data and samples.
- 8139: Collect geological data and rock samples.
- 8141: Describe and classify soils using soil maps.
- 8142: Identify and classify rock and soil materials.
- 8144: Model subsurface geological features.
- 8146: Read and interpret geophysical maps.
- 8148: Describe biogeochemical cycling of elements.
- 8150: Analyse wastewaters and demonstrate an understanding of wastewater treatment and discharge.

Level 6:

- 12364: Demonstrate knowledge of soil formation and structure.
- 12365: Demonstrate knowledge of soil fertility.
- 14398: Describe, assess and report on a degraded landform.
- 8143: Describe, assess and report on a contaminated site.
- 8149: Perform sedimentological and paleontological analyses.
- 8151: Perform soil chemical analysis.

Surveying: A National Certificate in Surveying (Level 3) with the following relevant standards exists:

- 8762: Confirm reliability of existing survey marks.
- 8774: Set up survey instruments and targets.
- 8775: Undertake and record linear field measurements for survey purposes.
- 8776: Undertake and record angular field measurements for survey purposes.
- 8777: Determine vertical height for survey purposes.
- 8778: Construct control survey marks, bench marks and trigonometrical beacons.
- 8798: Work safely during survey operations.

Conclusions:

International benchmarking in this instance has not revealed comparable qualifications for one or more of the following reasons:

- The required level of competence (Level 2) is rather low while formal qualifications in geology, surveying and sampling (laboratory assistants) are at a higher level (Level 4, 5 or higher).
- The reasons for South African unit standards and qualification representing a learning path starting at lower levels is mainly due to the relatively low educational base of the majority of workers in the mining industry. These standards (and indeed the NC Technical Support Level 2 qualification) seek to address the education gap.
- The combination of geology, survey and sampling competencies into a single qualification is a unique approach that has not been seen elsewhere.

The competencies covered by the NC Mining Technical Support (Level 2) are needed by the mining industry and it is highly motivated that learners should learn towards and be assessed against the relevant standards.

Despite lack of any internationally comparable qualifications, it is nevertheless deemed a valuable and relevant qualification.

ARTICULATION OPTIONS

This qualification is the ideal platform for horizontal articulation into the Survey, Geology and Sampling disciplines, and other mining industry related sub-fields.

This qualification articulates vertically with the National Certificate: Mining Technical Support NQF Level 3.

MODERATION OPTIONS

- Anyone assessing a learner or moderating the assessment of a learner against this unit standard 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 unit standard 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.
- The relevant Education, Training, Quality, Assurance (ETQA) Body will oversee assessment and moderation of assessment, 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 Unit Standard.
- Anyone wishing to be assessed against this unit standard may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors should be in possession of:

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

NOTES

N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119463	Access and use information from texts	Level 2	5
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 2	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 2	3
Fundamental	9008	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	Level 2	3
Fundamental	119454	Maintain and adapt oral/signed communication	Level 2	5
Fundamental	119460	Use language and communication in occupational learning programmes	Level 2	5
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 2	5
Fundamental	119456	Write/present for a defined context	Level 2	5
Core	254502	Demonstrate an understanding of the location of typical mineral deposits in SA	Level 1	2
Core	14097	Know, select and use materials, tools and equipment safely for technological purposes	Level 1	3

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Core	116520	Apply safety, health and environmental principles and procedures in a workplace	Level 2	2
Core	254495	Demonstrate an understanding of the principal rock groups, their origins and characteristics	Level 2	5
Core	254499	Measure and record the dip and strike of a plane	Level 2	2
Core	14257	Position a tape for measuring	Level 2	3
Core	254509	Collect special samples for mineral evaluation purposes	Level 3	5
Core	254507	Demonstrate an understanding of selected structural features and their characteristics	Level 3	3
Core	254501	Demonstrate an understanding of the principal mineral groups and their characteristics	Level 3	3
Core	254494	Demonstrate an understanding of the stratigraphy of the economic zones within the relevant economic deposit	Level 3	4
Core	14242	Read a plan	Level 3	3
Core	11694	Undertake tape and offset surveying	Level 3	5
Elective	9756	Collect a face sample for the purpose of determining the content or quality of the mineral	Level 1	4
Elective	9357	Develop and use keyboard skills to enter text	Level 1	4
Elective	116932	Operate a personal computer system	Level 1	3
Elective	254503	Assist in a geological surface exploration mapping programme	Level 2	5
Elective	254496	Assist in the geological mapping of an underground workplace	Level 2	4
Elective	9760	Attend to a survey point in an underground environment	Level 2	5
Elective	246464	Conduct sampling for water and wastewater treatment processes	Level 2	4
Elective	254497	Demonstrate an understanding of the Earth's Internal Structure and Age	Level 2	6
Elective	254505	Establish a survey point	Level 2	6
Elective	254504	Install an underground survey point	Level 2	6
Elective	254536	Prepare borehole cuttings for logging and sampling purposes recovered from containers	Level 2	5
Elective	9758	Quarter broken material to obtain a representative sample	Level 2	4
Elective	9757	Screen broken material to determine the particle size distribution	Level 2	6
Elective	254514	Chip face sample sections for the purpose of determining the content or quality of a mineral	Level 3	7
Elective	254534	Cut borehole core with a mounted circular saw for logging and sampling purposes	Level 3	2
Elective	9753	Cut face sample sections with a rock cutting saw for the purposes of determining the content and quality of a mineral	Level 3	7
Elective	254500	Demonstrate an understanding of surface processes	Level 3	3
Elective	254506	Demonstrate knowledge and attainment of the principal soil types and their characteristics	Level 3	3
Elective	14442	Plot tape and offset measurements on a plan	Level 3	3
Elective	254535	Prepare borehole core for logging and sampling purposes from core containers	Level 3	6
Elective	9752	Prepare samples for assaying purposes	Level 3	5
Elective	254498	Take a biological sample for economic exploration purposes	Level 3	3
Elective	254515	Take a stream sediment or soil sample for economic and environmental purposes	Level 3	6
Elective	254508	Take a surface rock sample to obtain geological info on the outcrop material	Level 3	3

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION**None**



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate an understanding of the stratigraphy of the economic zones within the relevant economic deposit

SAQA US ID	UNIT STANDARD TITLE		
254494	Demonstrate an understanding of the stratigraphy of the economic zones within the relevant economic deposit		
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate understanding of the location and history of the relevant economic deposit in accordance with specified requirements.

SPECIFIC OUTCOME 2

Demonstrate understanding of the economic importance of the relevant economic deposit in accordance with specified requirements.

SPECIFIC OUTCOME 3

Demonstrate understanding of the stratigraphy of the economic zones within the relevant economic deposit in accordance with specified requirements.

SPECIFIC OUTCOME 4

Demonstrate understanding of the relationship between the relevant economic deposit and similar deposits within South Africa.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate an understanding of the principal rock groups, their origins and characteristics

SAQA US ID		UNIT STANDARD TITLE	
254495		Demonstrate an understanding of the principal rock groups, their origins and characteristics	
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

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 principal rock groups and their sub groups.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the origins of the principal rock sub groups.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the relationship between the principal rock groups.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the common rock types.

SPECIFIC OUTCOME 5

Demonstrate an understanding of the characteristics of the common rock types.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Assist in the geological mapping of an underground workplace***

SAQA US ID	UNIT STANDARD TITLE		
254496	Assist in the geological mapping of an underground workplace		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

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

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to assist in geological mapping procedures in an underground workplace.

SPECIFIC OUTCOME 2

Prepare to assist in geological mapping procedures.

SPECIFIC OUTCOME 3

Assist in geological mapping procedures.

SPECIFIC OUTCOME 4

Conduct post mapping activities and compile a report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate an understanding of the Earth's Internal Structure and Age

SAQA US ID	UNIT STANDARD TITLE		
254497	Demonstrate an understanding of the Earth's Internal Structure and Age		
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of the physical properties of the Earth.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the internal structure of the Earth.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the units of time used in geology.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the time required for geological processes.

SPECIFIC OUTCOME 5

Demonstrate an understanding of the time relationships of geological events in South Africa.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Take a biological sample for economic exploration purposes***

SAQA US ID		UNIT STANDARD TITLE	
254498		Take a biological sample for economic exploration purposes	
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to take a biological sample.

SPECIFIC OUTCOME 2

Prepare to take a biological sample.

SPECIFIC OUTCOME 3

Take a biological sample.

SPECIFIC OUTCOME 4

Conduct post-sampling activities and compile a report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Measure and record the dip and strike of a plane***

SAQA US ID		UNIT STANDARD TITLE	
254499		Measure and record the dip and strike of a plane	
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 the understanding required to measure and record the dip and strike of a plane.

SPECIFIC OUTCOME 2

Plan and prepare to measure and record the dip and strike of a plane.

SPECIFIC OUTCOME 3

Measure and record the dip and strike of a plane.

SPECIFIC OUTCOME 4

Document the dip and strike of a plane.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate an understanding of surface processes***

SAQA US ID	UNIT STANDARD TITLE		
254500	Demonstrate an understanding of surface processes		
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of the principal processes of weathering and their associated landforms.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the principal types of erosive processes and their associated landforms.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the principal types of depositional processes and their associated landforms.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the location of typical examples of weathering, erosion and deposition within South Africa.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate an understanding of the principal mineral groups and their characteristics

SAQA US ID		UNIT STANDARD TITLE	
254501		Demonstrate an understanding of the principal mineral groups and their characteristics	
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of the principal mineral groups and common rock forming minerals.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the characteristics of the principle mineral groups and common rock forming minerals.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the rocks which the rock forming minerals combine to form.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the uses and economic importance of the rock forming minerals.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate an understanding of the location of typical mineral deposits in SA***

SAQA US ID	UNIT STANDARD TITLE		
254502	Demonstrate an understanding of the location of typical mineral deposits in SA		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	2

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

SPECIFIC OUTCOME 1

Demonstrate understanding of the typical mineral deposits of South Africa.

SPECIFIC OUTCOME 2

Demonstrate understanding of the geographical location of the principle mineral deposits of South Africa.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the economic importance of the economic deposits of South Africa.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the historical importance of the economic deposits of South Africa.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Assist in a geological surface exploration mapping programme***

SAQA US ID		UNIT STANDARD TITLE	
254503		Assist in a geological surface exploration mapping programme	
ORIGINATOR		PROVIDER	
SGB Mining and Minerals			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Fabrication and Extraction	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

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

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to assist in a geological surface mapping programme.

SPECIFIC OUTCOME 2

Prepare to assist in a geological surface mapping programme.

SPECIFIC OUTCOME 3

Assist in a geological surface mapping programme.

SPECIFIC OUTCOME 4

Conduct post mapping activities and compile a report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:*Install an underground survey point*

SAQA US ID	UNIT STANDARD TITLE		
254504	Install an underground survey point		
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of surveying terminology.

SPECIFIC OUTCOME 2

Prepare to install survey point.

SPECIFIC OUTCOME 3

Position and install survey point.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Establish a survey point***

SAQA US ID		UNIT STANDARD TITLE	
254505		Establish a survey point	
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Prepare to establish a survey point.

SPECIFIC OUTCOME 2

Locate the position of the survey point.

SPECIFIC OUTCOME 3

Install the survey point.

SPECIFIC OUTCOME 4

Complete the work sequence.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate knowledge and attainment of the principal soil types and their characteristics

SAQA US ID	UNIT STANDARD TITLE		
254506	Demonstrate knowledge and attainment of the principal soil types and their characteristics		
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of the principal soil types.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the processes involved in the derivation of the principal soil types.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the characteristics of the principal soil types.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the characteristics of the soils of South Africa.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate an understanding of selected structural features and their characteristics

SAQA US ID	UNIT STANDARD TITLE		
254507	Demonstrate an understanding of selected structural features and their characteristics		
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate an understanding of the principal characteristics related to faults.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the principal characteristics related to folds.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the principal characteristics related to joints.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the relationships between selected structural features.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Core 60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:*Take a surface rock sample to obtain geological info on the outcrop material*

SAQA US ID	UNIT STANDARD TITLE		
254508	Take a surface rock sample to obtain geological info on the outcrop 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 3	3

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

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to sample surface outcrops.

SPECIFIC OUTCOME 2

Prepare to take a surface rock sample.

SPECIFIC OUTCOME 3

Take a surface rock sample.

SPECIFIC OUTCOME 4

Conduct post-sampling activities and compile a report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Collect special samples for mineral evaluation purposes***

SAQA US ID	UNIT STANDARD TITLE		
254509	Collect special samples for mineral evaluation purposes		
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
11041	Collect special samples for mineral evaluation purposes	Level 2	5	Will occur as soon as 254509 is registered

SPECIFIC OUTCOME 1

Demonstrate knowledge of special sampling principles.

SPECIFIC OUTCOME 2

Prepare to collect special samples.

SPECIFIC OUTCOME 3

Collect special samples.

SPECIFIC OUTCOME 4

Complete the work sequence.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Chip face sample sections for the purpose of determining the content or quality of a mineral

SAQA US ID	UNIT STANDARD TITLE		
254514	Chip face sample sections for the purpose of determining the content or quality of a mineral		
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 does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of sampling principles.

SPECIFIC OUTCOME 2

Prepare to chip face sample sections.

SPECIFIC OUTCOME 3

Chip face sample sections.

SPECIFIC OUTCOME 4

Check and report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:*Take a stream sediment or soil sample for economic and environmental purposes*

SAQA US ID	UNIT STANDARD TITLE		
254515	Take a stream sediment or soil sample for economic and environmental purposes		
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	6

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

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to sample stream sediments or soils.

SPECIFIC OUTCOME 2

Prepare to take a stream sediment or soil sample.

SPECIFIC OUTCOME 3

Take a stream sediment or soil sample.

SPECIFIC OUTCOME 4

Conduct post-sampling activities and compile a report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Cut borehole core with a mounted circular saw for logging and sampling purposes

SAQA US ID		UNIT STANDARD TITLE	
254534		Cut borehole core with a mounted circular saw for logging and sampling purposes	
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 replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11688	Cut borehole core with a mounted circular saw for logging and sampling purposes	Level 3	2	Will occur as soon as 254534 is registered

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to cut borehole core with a mounted circular saw.

SPECIFIC OUTCOME 2

Prepare to cut borehole core.

SPECIFIC OUTCOME 3

Cut and handle borehole core.

SPECIFIC OUTCOME 4

Clean up and compile and submit reports.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Elective 60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Prepare borehole core for logging and sampling purposes from core containers

SAQA US ID	UNIT STANDARD TITLE		
254535	Prepare borehole core for logging and sampling purposes from core containers		
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	6

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11695	Prepare borehole core for logging and sampling purposes from core containers	Level 3	3	Will occur as soon as 254535 is registered

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to prepare (handle and lay out) borehole core correctly in accordance with specified requirements.

SPECIFIC OUTCOME 2

Prepare to lay out the borehole core.

SPECIFIC OUTCOME 3

Lay out borehole core.

SPECIFIC OUTCOME 4

Conduct post-laying out activities and compile a report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Elective	60349	National Certificate: Mining Technical Support	Level 2



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Prepare borehole cuttings for logging and sampling purposes recovered from containers

SAQA US ID	UNIT STANDARD TITLE		
254536	Prepare borehole cuttings for logging and sampling purposes recovered from containers		
ORIGINATOR	PROVIDER		
SGB Mining and Minerals			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Fabrication and Extraction		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	5

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
11693	Prepare borehole cuttings for logging and sampling purposes recovered from containers	Level 2	3	Will occur as soon as 254536 is registered

SPECIFIC OUTCOME 1

Demonstrate the knowledge required to prepare (handle and lay out) borehole cuttings correctly.

SPECIFIC OUTCOME 2

Prepare to lay out the borehole cuttings.

SPECIFIC OUTCOME 3

Lay out borehole cuttings.

SPECIFIC OUTCOME 4

Conduct post laying out activities and compile a report.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

ID	QUALIFICATION TITLE	LEVEL
Elective 60349	National Certificate: Mining Technical Support	Level 2