



**SGB for the Mining and Minerals Sector**

**SKILLS PROGRAMME  
for**

**Blasting Assistant within Underground Hard Rock**

**BAND ON THE NATIONAL QUALIFICATIONS FRAMEWORK**

General Education and Training	<input type="checkbox"/>
Further Education and Training	<input type="checkbox" value="Yes"/>
Higher Education and Training	<input type="checkbox"/>

**PRACTICING PERSON FOOTPRINT**

Practicing person with qualification registered on the NQF	<input type="checkbox" value="No"/>
Mandatory licensing	<input type="checkbox" value="Yes"/>
Discretionary licensing	<input type="checkbox"/>
Currency of competency	<input type="checkbox"/>

Date

Version

Skills Program number:	Domain: Fabrication and Extraction	
Generation date: 2003	Validation Status	
Revision date: 18 July 2007	From phase:	To phase:
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## 1. Skills Programme Description

### Blasting Assistant for Underground Hard Rock



2.

3. **Registration Number:**

4. **Total Credit Value:** 23 (minimum)

5. **Band on the NQF** FET

6. **Field:** Manufacturing Engineering and Technology

**Sub-Field:** Fabrication and Extraction

7. **Issue Date:**

8. **Review Date:**

## 9. Purpose of Skills Programme

People credited with this skills programme are able to assist in blasting operations within the production process.

## 8. Rationale

There is a need in the industry for persons to assist in blasting operations in terms of the following activities:

- The safe receipt, storage, issuing and transportation of explosives;
- The preparation of primers;
- The charging of blast holes with explosives and/or the placing of explosive charges;
- The timing and connecting up of blasting rounds or circuits, and;
- The safeguarding of persons against the significant hazards associated with the use of explosives.

## 9. Articulation

This skills programme may be the initial platform for obtaining credits towards the National Certificate in Rockbreaking (NQF Level 3) and other underground mining industry related sub-fields.

## 10. Learning assumed to be in place

It is assumed that candidates embarking on learning towards this skills programme have relevant knowledge and understanding of daily underground mining operations.

## 11. Access to the skills programme

It is recommended that candidates have addressed the areas reflected under "Learning assumed to be in place" before embarking on learning towards this skills programme.

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## 12. Composition of the Skills Programme

### 12.1 Core Unit Standards

The following core unit standards must be achieved:

Unit Standards						Credit Justification (Hrs)		
Current U Std Reference No.		New U Std Reference No.		Unit Standard Title	Level	Credits	Work Place	Provider
SAQA	MQA	SAQA	MQA					
9678	MnH-G001	244445	MnH-G501	<a href="#">Follow basic health and safety practices underground (V2)</a>	2	5	18	30
	MnH-G078	244453	MnH-G578	<a href="#">Demonstrate an understanding of the identification of and dealing with rock strata conditions. (V2)</a>	2	5	28	18
9700	MnH-G038	244416	MnH-G538	<a href="#">Make safe a workplace by means of barring.(V2)</a>	2	3	20	8
		244443	MnH-G707	<a href="#">Charge shot holes with primed explosives(V2)</a>	2	5	40	15
	MnH-G207	244429	MnH-G807	<a href="#">Demonstrate knowledge and understanding of blasting products and their usage in an underground hardrock environment (V2)</a>	2	2	12	6
<b>Total</b>						<b>20</b>	<b>118</b>	<b>77</b>

### 12.2 Elective Unit Standards

At least one of the following elective unit standards specific to timing must be achieved:

Unit Standards				Credit Justification (Hrs)		Work Place	Provider
U Std Reference		Unit Standard Title	Level	Credits			
SAQA	MQA						
244421	MnH-G714	<a href="#">Time a blasting round or circuit on a face where conventional fuses are used.</a>	2	3	20	10	
244424	MnH-G715	<a href="#">Time a blasting round or circuit on a face where electric/electronic delay detonators are used</a>	2	3	20	10	
244384	MnH-G716	<a href="#">Time a blasting round or circuit on a face where shock tubes are used</a>	2	3	20	10	

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The following site-specific unit standards may be elected where appropriate:

Unit Standards							Credit Justification (Hrs)	
Current U Std Reference No.		New U Std Reference No.		Unit Standard Title	Level	Credits	Work Place	Provider
SAQA	MQA	SAQA	MQA					
		244380	MnH-G702	<a href="#">Support an underground working place by means of temporary support units(V2)</a>	2	3	18	12
116657	MnH-G209	244433	MnH-G809	<a href="#">Test for flammable gas in a mining environment by means of a hand held electronic instrument and take appropriate action</a>	2	2	14	8
		244446	MnH-G712	<a href="#">Install a blocking barricade</a>	1	2	8	8
110118	MnH-G087	244422	MnH-G587	<a href="#">Demonstrate knowledge of the most common harmful gases and vapours</a>	3	4	0	36
119112	MnH-G045	244386	MnH-G545	<a href="#">Transport material and equipment by means of a mono rope system.(V2)</a>	2	3	18	12
116651	MnH-G075	244460	MnH-G575	<a href="#">Install an initiating system used in a blasting operation underground</a>	3	4	18	18
116636	MnH-G208	244405	MnH-G808	<a href="#">Determine environmental thermal conditions in an underground workplace by means of a whirling hygrometer and take appropriate action</a>	2	2	8	8
	MnH-G128	244396	MnH-G628	<a href="#">Transport and load explosives into blast holes using a mixer placer truck in an underground mine (V2)</a>	3	5	36	12
	MnH-G130	244440	MnH-G630	<a href="#">Transport explosives and accessories by means of a self propelled mobile machine</a>	2	3	12	18
	MnH-G133	244441	MnH-G633	<a href="#">Take charge of and drive an articulating vehicle in an underground mine</a>	2	3	12	18
	MnH-G200	244378	MnH-G800	<a href="#">Receive, handle, store and issue explosives and accessories at an underground workplace</a>	2	2	18	6

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### 12.3 Learning programme

Training (notional) Period based on total credit value

$$23 \times 10 = 230 \text{ Hours}$$

$$\frac{230 \text{ hrs}}{8 \text{ hrs/day}} = 29 \text{ Days}$$

#### NOTES

1. *The skills programme may be achieved in a notional period of 29 days, or 5 weeks. This is based on an assumption of utilising 8 hours of training during any given shift.*
2. *Considering the fact that some learners may progress faster or slower than other learners, it is suggested that a lead and a lag time of 20% be incorporated into the Skills programme. This means that *above average learners will possibly complete the Skills programme in 23 days or 4 weeks. Learners who perform at a slower rate will possibly complete the Skills programme in 34 days or 6 weeks.**
3. *The total (nominal) time allocated for Provider learning (off the job), as a percentage of total time is 40%.*
4. *The total (nominal) time allocated for Workplace Learning (on the job), as a percentage of total time is 60%.*
5. *It is assumed that the application of achieved competencies will be progressive and throughout the skills programme period.*

### 13. Practical Experience

Relevant practical experience will be obtained during the learning phase of this skills programme.

The assessment of individual unit standards will confirm the required practical experience.

### 14. Integrated assessment

For awarding recognition for the skills programme, a candidate must achieve all the unit standards as per item 12

The assessment criteria in the unit standards are performance-based (applied competence as opposed to required knowledge only). This means that workplace experience may be recognised when awarding credits towards this qualification.

The candidate must demonstrate the ability to effectively engage in operations in an integrative way, dealing with divergent and “random” demands related to the work operations

### 15. Range statements

The unit standards provide the details of the ranges within which the candidate is required to perform.

### 16. Recognition of Prior Learning

This skills programme can be achieved wholly, or in part, through recognition of prior learning in terms of the criteria laid out in item 12

Evidence can be presented in a variety of forms, including reports, testimonials mentioning functions performed and application of relevant competencies, work records, portfolios, performance records and videos of practice.

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All such evidence should be judged according to the general principles of assessment described in the note to assessors in item 18, and with emphasis on currency of evidence.

## 17. Accreditation and Moderation

- 17.1 Providers offering learning towards achievement of any of the unit standards that make up this skills programme must be accredited through the relevant ETQA by SAQA.
- 17.2 Internal moderation of assessment must take place at the point of assessment with external moderation provided by the relevant ETQA according to the moderation guidelines and the agreed ETQA procedures.
- 17.3 Assessors registered with the relevant ETQA must carry out the assessment of candidates for any of the unit standards that make up this skills programme.

## 18. Notes

### 18.1 Notes for Assessors:

Assessors should keep the following general principles in mind when designing and conducting assessments:

- The aim is to declare the person competent in terms of the skills programme purpose. Assessment activities should focus on gathering evidence in terms of the main outcomes expressed in the titles of the unit standards, to ensure assessment is integrated rather than fragmented. Where assessment at across titles or at title level is unmanageable, then focus assessment around each specific outcome, or groups of specific outcomes. Take special note of the need for integrated assessment.
- Make sure evidence is gathered across the entire range, wherever it applies. Assessment activities should be as close to the real performance as possible, and where simulations or role-plays are used, there should be supporting evidence to show the candidate is able to perform in the real situation.
- All assessments should be conducted in line with the principles of assessment:
  - **Appropriate:** The method of assessment is suited to the performance being assessed.
  - **Fair:** The method of assessment does not present any barriers to achievements, which are not related to the evidence. In particular, the method of assessment is sensitive to language diversity.
  - **Manageable:** The methods used make for easily arranged cost-effective assessments that do not unduly interfere with learning.
  - **Integration into work or learning:** Evidence collection is integrated into the work or learning process where this is appropriate and feasible.
  - **Valid:** The assessment focuses on the requirements laid down in the Standard; i.e. the assessment is fit for purpose.
  - **Direct:** The activities in the assessment mirror the conditions of actual performance as closely as possible
  - **Authentic:** The assessor is satisfied that the work being assessed is attributable to the person being assessed.
  - **Sufficient:** The evidence collected establishes that all criteria have been met and that performance to the required Standard can be repeated consistently.
  - **Systematic:** Planning and recording is sufficiently rigorous to ensure that assessment is fair.
  - **Open:** Learners can contribute to the planning and accumulation of evidence. Assessment candidates understand the assessment process and the criteria that apply.
  - **Consistent:** The same assessor would make the same judgement again in similar circumstances. The judgement made is similar to the judgement that would be made by other assessors.

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