



SGB for the Mining and Minerals Sector

SKILLS PROGRAMME

for

Rock Drill Operator in Underground Hard Rock Operations

BAND ON THE NATIONAL QUALIFICATIONS FRAMEWORK

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

PRACTICING PERSON FOOTPRINT

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

Date	14 February 2008	Version	1
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1. Skills Programme Description
Rock Drill Operator in Underground Hardrock Mines



2.

3. Registration Number:

4. Total (minimum) Credit Value: At least 23

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

Persons credited with this skills programme are able to drill a variety of holes inclusive of shot holes and support holes required in stoping and developing mining operations in underground hardrock mines.

10. Rationale

This skills programme has been identified to address the scarce and or critical skill in terms of the Sector Skills Plan. There is a need in the industry for persons to drill holes accurately into the rock face in terms of their position, direction, dip and depth in support of the mining process.

If shot holes are not drilled accurately these will cause blast damage to the rock surrounding the excavation which could result in falls of ground causing injury to persons or damage to property. Similarly if support holes are not drilled accurately these would render rock anchors and other supports useless which could also result in falls of ground causing injury to persons or damage to property.

Furthermore it is important to for shot holes to be drilled accurately to ensure optimal advance when the rock face is blasted.

11. Articulation

This skills programme may be the ideal platform for obtaining credits towards the National Certificate in Mining Operations (NQF Level 2) and other underground mining industry related sub-fields.

12. 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 at NQF Level 2.

13. Access to the skills programme

Access is open but 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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14. Composition of the Skills Programme

14.1 Core Unit Standards

The following generic core unit standards must be achieved:

Unit Standards					Credit Justification (Hrs)	
U Std Reference		Unit Standard Title	Level	Credits	Work Place	Provider
MQA	SAQA					
MnH-G501	244445	Follow basic health and safety practices underground	2	5	20	30
MnH-G811	244383	Conduct continuous hazard identification and risk assessment within a workplace	2	2	10	10
MnH-G538	244416	Make safe a workplace by means of barring	2	3	10	20
MnH-G578	244453	Demonstrate an understanding of the identification of and dealing with rock strata conditions	2	5	25	25
MnH-G702	244380	Support an underground working place by means of temporary support units	2	3	10	20
MnH-G525	244415	Drill holes by means of a hand-held rock drill machine	2	4	10	30
TOTAL				22	85	135

14.2 Elective Unit Standards

At least one of the following elective unit standards must be selected depending on site specific requirements:

Unit Standards					Credit Justification (Hrs)	
U Std Number		Unit Standard Title	Level	Credits	Work Place	Provider
SAQA	MQA					
MnH-G555	244408	Install and remove pipes and accessories	2	3	10	20
MnH-G569	244410	Construct and install a platform	2	1	4	6
OcS-F008	115093	Control workplace hazardous substances	3	4	20	20
MnH-G526	244381	Drill holes by means of a stope drill-rig	2	4	10	30
MnH-G621	244372	Support an underground workplace by means of a hydraulic roof bolter	3	5	15	35
MnH-G608	244477	Drill holes by means of an electro hydraulic drill rig in an underground workplace	3	8	20	60
MnH-G622	244466	Drill holes by means of a skid steer secondary drill rig in an underground workplace.	3	5	10	40
MnH-G625	244474	Drill holes using an electro-hydraulic long hole drill rig in an underground mine.	3	8	20	60

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MnH-G707	244443	Charge shot holes with primed explosives	2	5	20	30
MnH-G631	244401	Charge shot holes with propellant based cartridges and accessories	2	2	10	10
MnH-G628	244396	Transport and load explosives into blast holes using a mixer-placer truck in an underground mine	3	5	15	35

14.3 Learning programme

Training (notional) Period based on the minimum credit value

$$\begin{aligned}
 23 \times 10 &= 230 \text{ Hours} \\
 &= \underline{230 \text{ hours}} \\
 &\quad \underline{6 \text{ hours/day}} \\
 &= 38 \text{ Days}
 \end{aligned}$$

NOTES

1. The skills programme may be achieved in a notional period of 38 days, or 8 weeks. This is based on an assumption of utilising 6 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 30 days or 6 weeks. Learners who perform at a slower rate will possibly complete the Skills programme in 46 days or 9 weeks.
3. The total (nominal) time allocated for Provider learning (off the job), as a percentage of total time is 39%.
4. The total (nominal) time allocated for Workplace Learning (on the job), as a percentage of total time is 61%.
5. It is assumed that the application of achieved competencies will be progressive and throughout the skills programme period.

14.4 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.

15. Integrated assessment

For awarding recognition for the skills programme, a candidate must achieve all the relevant core unit standards as per item 14.1

The assessment criteria in the unit standards are virtually all 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.

16. Range statements

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

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17. 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 14.

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.

All such evidence should be judged according to the general principles of assessment described in the note to assessors in item 19, and with emphasis on currency of evidence.

18. Accreditation and Moderation

18.1 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.

18.2 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.

18.3 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.

19. Notes

19.1 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 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 that 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.

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- **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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