

## National Certificate: Mining Operations for Underground Hard Rock NQF Level 3

**Introduction:** The Rock breaker plays a critical role in the mining industry. Blasting operations are often conducted under hazardous and difficult conditions, which have to be managed appropriately in order to preserve the lives of those working in the industry, and ensure operational efficiency.

While the title 'Rock breaker' implies activities directly related to blasting, additional competencies in mining operations and supervision, management and leadership are also required in order to direct and supervise the activities of first line supervisors. The National Certificate Rock Breaking Underground Hard Rock (NQF Level 3) is a statutory requirement in terms of the Mine Health and Safety Act and Regulations for persons conducting blasting operations to be deemed competent in an underground hard rock mine. 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 mining process and adhering to quality, occupational safety and legislative requirements. People credited with this qualification are able to:

- Communicate and solve problems in a variety of ways.
- Adhere to occupational safety, health, environmental and legislative requirements.
- Conduct blasting operations in a safe and proper manner.
- Direct the supervision of the production teams.

**Description:** The core activity in excavating rock and winning minerals remains safe controlled blasting operations both off and on the reef horizon. Blasting activities involve the marking, drilling and charging of shot holes with explosives and then ensuring these are blasted in a pre-determined sequence to maximise the break of the advancing face and at the same time minimising blast damage to the surrounding rock and so ensure a safe underground working environment for the production teams. Persons conducting blasting operations underground require sound technical knowledge of the type of rock being mined and its behaviour with the blast with specific reference to geological discontinuities, depth, stress regimes, proximity to mined out areas and protection existing excavations, machinery, equipment and people working underground in the vicinity of the blast. Qualifying learners will obtain the National Certificate in Rockbreaking Underground Hard rock NQF Level 3 which will enable them to conduct blasting operations in an underground mine and direct the supervision of the production teams involved in the safe breaking, removal and support of rock or mineral.

### SAQA Qualification ID: 58760

<b>Target group:</b> New employees and or existing employees.	<b>Certification:</b>  <b>If competent a competence certificate will be issued by MQA</b>	<b>Duration:</b> 210 Days Days can be reduced depending on RPL
<b>Entry Level Requirements:</b>  ▪ Minimum Literacy and Numeracy ABET 4 or NQF 1 or RPL, Grade 9		

**Fundamental:** (Could be RPL'd ±2 days per unit standard)

- All 42 credits in the Fundamental Component are compulsory.

**Core:**

- All 40 credits in the Core Component are compulsory.

**Elective:** (Could be RPL'd ±2 days per unit standard)

- A minimum of 44 credits at Level 3 or above must be selected from the list of elective unit standards that meet site-specific requirements.

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LEVEL	TYPE	CREDITS	U/S	Description
Level 2	Core	3	<a href="#">244487</a>	Break big rocks by means of blasting
Level 2	Core	2	<a href="#">244464</a>	Destroy old explosives in an underground workplace
Level 2	Core	4	<a href="#">244479</a>	Mark shot holes for secondary blasting
Level 2	Core	2	<a href="#">244389</a>	Treat and remove misfires
Level 3	Core	5	<a href="#">244458</a>	Demonstrate an understanding of legal terms and requirements related to rockbreaking operations
Level 3	Core	9	<a href="#">244470</a>	Demonstrate understanding of blasting products pertaining to blasting operations and principles of rock breaking activities in an underground hard rock environment
Level 3	Core	5	<a href="#">244486</a>	Identify and deal with rock strata conditions pertaining to daily mining operations within an underground-working place
Level 3	Core	4	<a href="#">244460</a>	Install an initiating system used in blasting operations underground
Level 3	Core	6	<a href="#">244483</a>	Remove hazardous ground and installed support by means of blasting
Level 1	Fundamental	5	<a href="#">119373</a>	Describe and represent objects in terms of shape, space and measurement
Level 1	Fundamental	6	<a href="#">119368</a>	Describe, interpret and represent mathematical patterns, functions and algebra in different contexts
Level 1	Fundamental	6	<a href="#">119635</a>	Engage in a range of speaking/signing and listening interactions for a variety of purposes
Level 1	Fundamental	5	<a href="#">119364</a>	Evaluate and solve data handling and probability problems within given contexts
Level 1	Fundamental	5	<a href="#">119631</a>	Explore and use a variety of strategies to learn
Level 1	Fundamental	3	<a href="#">15091</a>	Plan to manage one's time
Level 1	Fundamental	6	<a href="#">119640</a>	Read/view and respond to a range of text types
Level 1	Fundamental	6	<a href="#">119636</a>	Write/Sign for a variety of different purposes
Level 2	Elective	3	<a href="#">244465</a>	Blast a misfired hole in a development end during the shift
Level 2	Elective	3	<a href="#">244441</a>	Take charge of and drive a non-articulating vehicle underground
Level 2	Elective	4	<a href="#">244476</a>	Transfer broken rock by means of a diesel-powered load haul dumper (LHD) in an underground mine
Level 2	Elective	8	<a href="#">244467</a>	Transfer broken rock by means of a remote-controlled Load Haul Dumper (LHD) in an underground mine
Level 2	Elective	4	<a href="#">244482</a>	Transfer broken rock by means of an electrically powered load haul dumper (LHD) in an underground mine
Level 3	Elective	3	<a href="#">244488</a>	Connect and initiate a blast of a development end using shock tube
Level 3	Elective	3	<a href="#">244463</a>	Connect and initiate a blast of a stope face using shock tube
Level 3	Elective	5	<a href="#">244466</a>	Drill holes by means of a skid steer secondary drill rig in an underground workplace
Level 3	Elective	8	<a href="#">244477</a>	Drill holes by means of an electro hydraulic drill rig in an underground workplace
Level 3	Elective	8	<a href="#">244474</a>	Drill holes by means of an electro hydraulic long hole drill rig in an underground workplace
Level 3	Elective	10	<a href="#">244461</a>	Mark shot holes for primary blasting in an underground working place
Level 3	Elective	4	<a href="#">244473</a>	Remove an obstruction from an ore pass by means of blasting
Level 3	Elective	5	<a href="#">244372</a>	Support an underground workplace by means of a hydraulic roof bolter
Level 3	Elective	4	<a href="#">244397</a>	Take charge of and operate a remote controlled vehicle underground
Level 3	Elective	12	<a href="#">244457</a>	Time, connect and initiate a blast of a face