

# Extractives

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***PROPOSED REQUIREMENTS  
FOR GRANTING EXTRACTIVES  
CERTIFICATES OF COMPETENCE***

June 2017

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# The New Zealand Mining Board of Examiners (the Board), has reviewed the requirements for extractives' Certificates of Competence (CoCs).

The review was undertaken because the requirements have not undergone a thorough review for many years. WorkSafe New Zealand and the Board consider that it is important the requirements align with:

- New health and safety legislation – Health and Safety at Work Act 2015
- WorkSafe's focus on occupational health as well as on safety
- The four competencies that WorkSafe and the Board have identified CoC holders must have and which are the basis for oral examinations and continuing professional development (CPD):
  - Operating and Safety Systems
  - Legislation
  - Emergency Management
  - Leadership

and that unit standards reflect these requirements.

The proposed changes are detailed in this consultation document.

This document covers the following proposed changes or additions to the requirements:

- transition arrangements
- first aid requirements
- requirements for a Specified Quarry CoC
- defining the meaning of 'in the workings of the relevant type of mine, quarry or tunnel operation'
- requirements for 'Leadership' unit standards
- lists of unit standard requirements for each CoC.

It is important to note that it is not the role of WorkSafe or the Board to review unit standard contents. This is MITO's role.

MITO is therefore reviewing several unit standards at the request of WorkSafe and the Board and is currently undertaking a separate industry consultation regarding the reviewed unit standard content. The lists of unit standard requirements shown in this document refer to proposed reviewed titles, levels, and credits, as well as proposed new and/or combined unit standards. This consultation does not cover feedback on unit standard titles, levels, credits or content.

**New CoC requirements will not affect holders of current CoCs. CoCs granted before the new Gazette Date remain valid and do not need to be updated to meet the new requirements.**

## Transition arrangements

*These will be effective for 12 months from the date the new CoC Requirements Gazette notice comes into effect.*

Gazette Date (tbc) – (eg 1 January 2018)

Transition End Date (tbc) – (eg 12 months from Gazette Date)

‘Between the time of the *Gazette* Notice and the Transition End Date, people may apply for CoCs under either the December 2014 unit standard requirements or the new unit standard requirements. This covers applications submitted prior to the *Gazette* Date but not yet granted.

From the *Gazette* Date until the Transition End Date, people working towards completing the December 2014 CoC unit standard requirements may either complete those requirements or transfer to the new unit standard requirements.

From the Transition End Date all CoC applications must meet the new unit standard requirements.’

## Draft transition arrangements – for individual unit standards

As stated in the 18 December 2014 Gazette notice, the following will also apply

### ‘CHANGES TO UNIT STANDARDS

#### Replacement unit standards

In the case of a unit standard expiring and being replaced with a new unit standard, as verified with the New Zealand Qualifications Authority (NZQA), for the purposes of meeting certificate of competence requirements, either the unit standard listed in this notice or the replacement unit standard can be used to meet the requirements of this notice.

#### Exemption from unit standards

In the case of the unit standard listed in this notice being a replacement for a unit standard that has expired, for the purposes of meeting certificate of competence requirements, a person who has completed an expired unit standard that was replaced by a unit standard listed in this notice, as verified with NZQA, is exempt from the requirement to gain credit for the replacement standard.’

## Defining ‘workings’

CoC requirements state that an applicant must satisfy the Board that he or she has been employed ‘in the workings’ of the relevant type of mine, tunnel or quarry for a particular period of time. Some CoCs have the additional requirements that stipulate the specific type of work experience required. To ensure that CoC applicants have a breadth of experience over different activities, the Board is proposing to more clearly define ‘in the workings of’.

The current guidance on operational experience that the Board has issued forms the proposed definitions.

‘Workings’ can include the following activities or any other operating and safety systems related to the workings of a mine, tunnel or quarry:

|                                  |                                  |                          |
|----------------------------------|----------------------------------|--------------------------|
| Exploration/site investigation   | Roads and vehicle operations     | Emplacement stability    |
| Slope stability                  | Fire and explosion prevention    | Ponds and dams           |
| Operational planning             | Gas management                   | Stockpiling              |
| Temporary work/preparatory works | Mechanical engineering           | Waste dumps              |
| Methods                          | Electrical engineering           | Hyperbarics              |
| Processing                       | Ventilation management           | Mine surveying           |
| Services                         | Outburst management              | Winding engines          |
| Plant and equipment              | Inrush and inundation management | Segment management       |
| Guarding                         | Flammable dust management        | Safety management        |
| Maintenance                      | Explosives                       | Risk management          |
| Instrumentation and monitoring   | Spontaneous combustion           | Worker health management |
| Ground or strata control         | Environmental management         |                          |

To ensure that applicants have sufficient breadth of experience over different activities, applicants are expected to have the following experience:

### Underground coal

A range of activities listed in the table above, of which a minimum of nine months needs to be in production operations in more than one of the following areas:

- roadway development
- extraction
- installation of ground support
- shaft sinking.

### Underground

This includes tunnels and all underground mines with the exception of coal.

A range of activities listed in the table above, of which a minimum of nine months needs to be in production operations in more than one of the following areas:

- development operations
- extraction
- installation of ground support systems
- filling operations
- shaft sinking.

### Quarry and opencast coal

A range of activities listed in the table above, of which a minimum of nine months needs to be in production operations in more than one of the following areas:

- drill and blast
- load and haul
- processing and stockyard loadout.

### Electrical superintendent

A minimum of one year's experience of working in or about extractives or heavy industry in:

- the installation, commissioning, electrical maintenance and repair of mobile and/or fixed plant.

## Mechanical superintendent

A minimum of one year's experience of working in or about extractives or heavy industry in the:

- installation, commissioning, mechanical maintenance and repair of mobile and/or fixed plant.

## Ventilation officer

No further detail to the requirements set out in the New Zealand Gazette Notice (ie employment in the workings of an underground mining operation for a period or periods totalling no less than two years).

## First aid requirements

### Current requirement for all CoCs

'The applicant must hold a first aid certificate.'

### Proposed requirement for all CoCs

The applicant must hold a current first aid certificate which includes at least the following unit standards:

- 6401, Provide first aid
- 6402, Provide basic life support
- 6400, Manage first aid in an emergency situation.

Those renewing CoCs must ensure that their current first aid certificate meets the requirements above.

## Requirements for 'leadership' unit standards

The oral examination for CoC applicants and the system for CPD for CoC holders both incorporate a 'Leadership' competency.

It is proposed that requirements include unit standards relating to leadership, as outlined below. CoC applicants can choose which unit standards to study.

### Proposed 'leadership' unit standards requirements

| COCS   | REQUIREMENT  |
|--|--|
| SSE<br>1st Class Coal Mine Manager<br>1st Class Mine Manager   | At least 8 credits or two unit standards at Level 5 from the list below (whichever is the greater).          |
| Coal Mine Underviewer<br>A-Grade Tunnel Manager<br>A-Grade Opencast Coal Mine Manager<br>A-Grade Quarry Manager<br>Mechanical Superintendent<br>Electrical Superintendent<br>Mine Surveyor | At least 8 credits or two unit standards at Level 4 or above from the list below (whichever is the greater). |
| Coal Mine Deputy<br>B-Grade Tunnel Manager<br>B-Grade Opencast Coal Mine Manager<br>B-Grade Quarry Manager<br>Ventilation Officer<br>Site-specific Quarry                                  | At least 8 credits or two unit standards at Level 3 or above from the list below (whichever is the greater). |
| Winding Engine Driver  | N/A  |

## 'Leadership' unit standards lists

| <b>LEVEL 3</b> |   |            |
|----------------|---|------------|
| 27557          | Behave according to organisational requirements   | 4 Credits  |
| 27563          | Describe teams and team leadership  | 4 Credits  |
| 27565          | Train colleagues in the workplace   | 4 Credits  |
| 1304           | Communicate with people from other cultures   | 2 Credits  |
| 1312           | Give oral instructions in the workplace   | 3 Credits  |
| 9681           | Contribute within a team or group which has an objective  | 3 Credits  |
| 9705           | Give and respond to feedback on performance   | 3 Credits  |
| <b>LEVEL 4</b> |   |            |
| 15190          | Develop and implement a work team plan  | 10 Credits |
| 18337          | Determine and co-ordinate training and/or development for a team  | 5 Credits  |
| 27564          | Demonstrate knowledge of leadership   | 10 Credits |
| 8495           | Develop self to improve own performance in an organisation  | 3 Credits  |
| 21335          | Lead a team to achieve an objective   | 5 Credits  |
| 9679           | Apply knowledge of a formal meeting   | 4 Credits  |
| 9695           | Examine problem-solving models and explain associated techniques  | 3 Credits  |
| 9696           | Apply a problem-solving model   | 4 Credits  |
| 9704           | Manage interpersonal conflict   | 4 Credits  |
| 11099          | Develop strategies for communicating in a culturally diverse workplace                                    | 4 Credits  |
| <b>LEVEL 5</b> |   |            |
| 1987           | Develop strategies to establish and maintain positive workplace relationships                             | 5 Credits  |
| 25451          | Provide mentoring in an organisation  | 5 Credits  |
| 27558          | Manage professional and ethical behaviour of staff in a business operation                                | 5 Credits  |
| 27568          | Implement change in a work team   | 4 Credits  |
| 11096          | Analyse feedback contexts and apply constructive feedback techniques                                      | 3 Credits  |
| 11098          | Analyse the use of listening strategies, and use listening techniques and respond to information received | 2 Credits  |
| 21336          | Lead a team to achieve a complex objective  | 5 Credits  |
| 9678           | Conduct a formal meeting  | 4 Credits  |

### **CoC as a manager of a specified quarry (Specified Quarry CoC)**

It is proposed that requirements for a CoC as a manager to manage a specific quarry (Specified Quarry CoC) are included in the Gazette notice. Regulation 35 of the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016 provides that 'a certificate of competence as a manager to manage the quarrying operation specified in the certificate' may be issued.

There are two sets of criteria:

- one applies to the quarries that meet the criteria set out below
- the other applies to quarries that do not meet the criteria set out below but otherwise meet the requirements set out in Regulation 21, Certificate of competence of manager of quarrying operation.

The following criteria need to be met:

- no crushing
- no more than four workers (including the CoC holder) ordinarily work at the site at any one time
- no explosives are used
- no excavation greater than 6 metres from surface to base of excavation in total
- no voids or underground workings within the planned extraction zone
- no working below the surface level of the body of water or fluid material
- average processing rate not to exceed an average of 1,000 tonnes per week
- operating period of a minimum of 24 months (does not need to be continuous)
- no tip head or stockpiles higher than 5 metres.

The applicant for a certificate of competence as a manager of a specified quarry must:

1. have passed the following unit standards for a specified quarry set out in Appendix K below
2. hold a current first aid certificate which includes at least the following unit standards:
  - 6401, Provide first aid
  - 6402, Provide basic life support
  - 6400, Manage first aid in an emergency situation.
3. satisfy the Board that:
  - a. he or she has been employed in the workings of an opencast mine or quarry for a period or periods totaling not less than two years; or
  - b. he or she has been employed
    - i. in the workings of an opencast mine or quarry for a period or periods totaling not less than 12 months; and
    - ii. in the underground workings of a mine, coal mine, or tunnel for a period or periods totaling not less than two years; or
  - c. he or she:
    - i. holds a certificate of competence as a first-class mine manager or as a first-class coal mine manager whether under the regulations or former regulations; and
    - ii. has been employed in the workings of in an opencast mine or quarry for a period or periods totaling not less than 12 months.

## **Unit standard requirements for CoCs**

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

## For a certificate of competence as a Site Senior Executive

Retained from current requirements:

| UNIT STANDARD          | TITLE   | LEVEL | CREDIT |
|------------------------|---|-------|--------|
| 7142                   | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i> | 6     | 25     |
| 16686                  | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 16810                  | Develop a workplace emergency management plan   | 6     | 10     |
| 26855                  | Analyse Human Factors present in workplace practices at an extractive site                              | 4     | 10     |
| 28739 (was 23547) (G3) | Establish the risk management system at an extractive site  | 6     | 15     |
| 28740 (was 23548) (G7) | Establish and maintain the occupational health and safety management system at an extractive site       | 6     | 15     |

Additional to current requirements:

| UNIT STANDARD | TITLE                        | LEVEL | CREDIT |
|---------------|------------------------------|-------|--------|
| Leadership    | Choices as per separate list | 5     | 8+     |

## For a certificate of competence as a First Class Coal Mine Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 3271          | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| 7143          | <i>Inspect and report on safety and operations at an extractive site</i>                                  | 5     | 10     |
| 7142          | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>   | 6     | 25     |
| 7145          | <i>Design and maintain effective ventilation systems for an underground operation</i>                     | 5     | 20     |
| 7146          | Demonstrate basic knowledge and ability required to work in an underground operation                      | 2     | 6      |
| 8899          | <i>Operate and maintain stockpiles and tipheads at extractive sites</i>                                   | 4     | 8      |
| 8902          | <i>Prepare a safety inspection plan for extractive operations</i>   | 5     | 4      |
| 8905          | <i>Demonstrate knowledge of construction and maintenance of working surfaces at an extractive site</i>    | 3     | 5      |
| 15662         | <i>Evaluate ground conditions and support methods for maintaining stability in underground operations</i> | 6     | 15     |
| 15665         | Demonstrate knowledge of geology and geotechnical features and failures for surface extraction            | 4     | 5      |
| 15666         | Demonstrate knowledge of geology for underground extraction   | 4     | 10     |
| 16686         | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279         | Demonstrate knowledge of the coordinated incident management system (CIMS)                                | 2     | 2      |

| UNIT STANDARD          | TITLE  | LEVEL | CREDIT |
|------------------------|--|-------|--------|
| 17691                  | Use mathematics to solve problems in an extractive industries workplace  | 4     | 15     |
| 17693                  | <i>Explain and determine water flow, and describe the selection of pumps and structures for an extractive site</i> | 6     | 20     |
| 17694                  | Demonstrate knowledge of explosives and their properties   | 3     | 10     |
| 17705                  | <i>Describe, develop, and maintain basic ventilation systems for an underground operation</i>                      | 4     | 15     |
| 17743                  | Demonstrate knowledge of survey principles and apply to an extraction site   | 4     | 4      |
| 17744                  | <i>Read and interpret extractive site plans</i>  | 4     | 5      |
| 21152                  | Demonstrate and apply knowledge of storing explosives for use  | 4     | 10     |
| 21280                  | Demonstrate knowledge and evaluate the design of an effective ventilation system in an underground mine            | 6     | 20     |
| 21281                  | <i>Interpret and test for gases in an underground extraction site</i>  | 4     | 15     |
| 21629                  | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                                  | 5     | 10     |
| 21661                  | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i>    | 4     | 7      |
| 21821                  | Maintain and install services for an underground operation   | 3     | 15     |
| 22057                  | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>                | 4     | 7      |
| 25878                  | Demonstrate knowledge of crushing and screening plant for extractives industries                                   | 3     | 3      |
| 26855                  | Analyse Human Factors present in workplace practices at an extractive site   | 4     | 10     |
| 15658/15667 combined   | <i>Demonstrate knowledge of extraction methods, and selection of plant and equipment for surface extraction</i>    | 5     | 10     |
| 15668/21823 combined   | Demonstrate knowledge of mining methods, and analyse and select plant for underground coalmines                    | 6     | 20     |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site  | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD                    | TITLE   | LEVEL | CREDIT |
|----------------------------------|---|-------|--------|
| <i>New replacement for 15672</i> | <i>Demonstrate knowledge of the Underground Mines Emergency Protocol</i>  | 2     | 2      |
| 21155                            | <i>Demonstrate knowledge of the use of water at an extractive site</i>  | 4     | 7      |
| 23648                            | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                             | 3     | 5      |
| 25876                            | Describe the effects of an extractive site on the environment and related requirements and responsibilities         | 3     | 4      |
| 28982                            | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 29553                            | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554                            | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership                       | Choices as per separate list  | 5     | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment  | 3     | 3      |
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site                                    | 5     | 15     |
| 8909          | Demonstrate knowledge of the maintenance of working surfaces at a surface extraction site                          | 2     | 2      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site   | 2     | 2      |
| 15663         | Demonstrate knowledge of the design and maintenance of stockpiles and sloping surfaces at surface extraction sites | 6     | 20     |
| <i>15672</i>  | <i>Demonstrate knowledge of the Mines Rescue Service</i>   | 2     | 2      |
| 21151         | Demonstrate knowledge of planning rehabilitation operations for an extractive site                                 | 6     | 15     |
| 21153         | Demonstrate and apply knowledge of dewatering, pump maintenance, and settling ponds at an extractive site          | 3     | 5      |
| 21156         | Demonstrate knowledge of planning and managing extraction to minimise environmental impacts                        | 5     | 15     |
| 21278         | Describe, install, and reassess support systems for an underground operation                                       | 4     | 15     |
| 21662         | Demonstrate knowledge of development and extraction plant and methods for underground coal mining                  | 4     | 15     |
| 22056         | Demonstrate knowledge of theoretical mechanics for extractive industries   | 5     | 20     |
| 22445         | Describe the roles and functions of a CIMS Incident Management Team  | 4     | 4      |

## For a certificate of competence as a Coal Mine Underviewer

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 3271          | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| <i>7143</i>   | <i>Inspect and report on safety and operations at an extractive site</i>                                | 5     | 10     |
| <i>7142</i>   | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i> | 6     | 25     |
| <i>7145</i>   | <i>Design and maintain effective ventilation systems for an underground operation</i>                   | 5     | 20     |
| 7146          | Demonstrate basic knowledge and ability required to work in an underground operation                    | 2     | 6      |
| 8899          | Operate and maintain stockpiles and tipheads at extractive sites  | 4     | 8      |
| 15666         | Demonstrate knowledge of geology for underground extraction   | 4     | 10     |
| 16686         | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279         | Demonstrate knowledge of the coordinated incident management system (CIMS)                              | 2     | 2      |
| 17691         | Use mathematics to solve problems in an extractive industries workplace                                 | 4     | 15     |

| UNIT STANDARD          | TITLE   | LEVEL | CREDIT |
|------------------------|---|-------|--------|
| 17694                  | Demonstrate knowledge of explosives and their properties  | 3     | 10     |
| 17705                  | <i>Describe, develop, and maintain basic ventilation systems for an underground operation</i>                   | 4     | 15     |
| 17743                  | Demonstrate knowledge of survey principles and apply to an extraction site                                      | 4     | 4      |
| 17744                  | <i>Read and interpret extractive site plans</i>   | 4     | 5      |
| 21152                  | Demonstrate and apply knowledge of storing explosives for use   | 4     | 10     |
| 21278                  | Describe, install, and reassess support systems for an underground operation                                    | 4     | 15     |
| 21281                  | <i>Interpret and test for gases in an underground extraction site</i>   | 4     | 15     |
| 21661                  | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i> | 4     | 7      |
| 21662                  | Demonstrate knowledge of development and extraction plant and methods for underground coal mining               | 4     | 15     |
| 21821                  | Maintain and install services for an underground operation  | 3     | 15     |
| 22057                  | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>             | 4     | 7      |
| 26855                  | Analyse Human Factors present in workplace practices at an extractive site                                      | 4     | 10     |
| 15668/21823 combined   | <i>Demonstrate knowledge of mining methods, and analyse and select plant for underground coalmines</i>          | 6     | 20     |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD                    | TITLE   | LEVEL | CREDIT |
|----------------------------------|---|-------|--------|
| 8902                             | <i>Prepare a safety inspection plan for extractive operations</i>   | 5     | 4      |
| 15662                            | <i>Evaluate ground conditions and support methods for maintaining stability in underground operations</i>           | 6     | 15     |
| <i>New replacement for 15672</i> | <i>Demonstrate knowledge of the Underground Mines Emergency Protocol</i>  | 2     | 2      |
| 21155                            | <i>Demonstrate knowledge of the use of water at an extractive site</i>  | 4     | 7      |
| 21629                            | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                                   | 5     | 10     |
| 23648                            | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                             | 3     | 5      |
| 25876                            | Describe the effects of an extractive site on the environment and related requirements and responsibilities         | 3     | 4      |
| 25878                            | Demonstrate knowledge of crushing and screening plant for extractives industries                                    | 3     | 3      |
| 28982                            | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 29553                            | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554                            | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership                       | Choices as per separate list  | 4+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment   | 3     | 3      |
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site                           | 5     | 15     |
| 8922          | Conduct safety checks prior to equipment use at an extractive site  | 2     | 2      |
| <i>15672</i>  | <i>Demonstrate knowledge of the Mines Rescue Service</i>  | 2     | 2      |
| 21151         | Demonstrate knowledge of planning rehabilitation operations for an extractive site                        | 6     | 15     |
| 21153         | Demonstrate and apply knowledge of dewatering, pump maintenance, and settling ponds at an extractive site | 3     | 5      |
| 22445         | Describe the roles and functions of a CIMS Incident Management Team                                       | 4     | 4      |

### For a certificate of competence as a Coal Mine Deputy

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD          | TITLE   | LEVEL | CREDIT |
|------------------------|---|-------|--------|
| 3271                   | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| <i>7143</i>            | <i>Inspect and report on safety and operations at an extractive site</i>  | 5     | 10     |
| 7146                   | Demonstrate basic knowledge and ability required to work in an underground operation                            | 2     | 6      |
| 16686                  | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279                  | Demonstrate knowledge of the coordinated incident management system (CIMS)                                      | 2     | 2      |
| 17691                  | Use mathematics to solve problems in an extractive industries workplace   | 4     | 15     |
| 17694                  | Demonstrate knowledge of explosives and their properties  | 3     | 10     |
| <i>17705</i>           | <i>Describe, develop, and maintain basic ventilation systems for an underground operation</i>                   | 4     | 15     |
| 21152                  | Demonstrate and apply knowledge of storing explosives for use   | 4     | 10     |
| <i>21281</i>           | <i>Interpret and test for gases in an underground extraction site</i>   | 4     | 15     |
| <i>21661</i>           | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i> | 4     | 7      |
| 21821                  | Maintain and install services for an underground operation  | 3     | 15     |
| <i>22057</i>           | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>             | 4     | 7      |
| 26855                  | Analyse Human Factors present in workplace practices at an extractive site                                      | 4     | 10     |
| <i>28742</i>           | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i>    | 4     | 8      |
| Or<br><i>7142</i>      | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>         | 6     | 25     |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |

Amendment to current requirements:

| UNIT STANDARD                         | TITLE  | LEVEL | CREDIT |
|---------------------------------------|--|-------|--------|
| 21662                                 | Demonstrate knowledge of development and extraction plant and methods for underground coal mining            | 4     | 15     |
| Or<br><i>15668/21823<br/>combined</i> | Or<br><i>Demonstrate knowledge of mining methods, and analyse and select plant for underground coalmines</i> | 6     | 20     |

Additional to current requirements:

| UNIT STANDARD                        | TITLE  | LEVEL | CREDIT |
|--------------------------------------|--|-------|--------|
| <i>New replacement<br/>for 15672</i> | <i>Demonstrate knowledge of the Underground Mines Emergency Protocol</i>                     | 2     | 2      |
| 17744                                | <i>Read and interpret extractive site plans</i>  | 4     | 5      |
| 21629                                | <i>Evaluate plans to manage old workings and inundations in underground sites</i>            | 5     | 10     |
| 23648                                | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>      | 3     | 5      |
| 28793                                | Conduct safety inspections for extractive operations   | 4     | 4      |
| 28798                                | Demonstrate introductory knowledge of ground support and geology at an underground operation | 3     | 5      |
| Or<br>15666                          | Or<br>Demonstrate knowledge of geology for underground extraction                            | 4     | 10     |
| 28982                                | Develop standard operating procedures for an extractive site                                 | 5     | 5      |
| Leadership                           | Choices as per separate list   | 3+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment                             | 3     | 3      |
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site | 5     | 15     |
| 8899          | <i>Operate and maintain stockpiles and tipheads at extractive sites</i>         | 4     | 8      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site              | 2     | 2      |
| 15672         | <i>Demonstrate knowledge of the Mines Rescue Service</i>                        | 2     | 2      |
| 22445         | Describe the roles and functions of a CIMS Incident Management Team             | 4     | 4      |

## For a certificate of competence as a First Class Mine Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 7142          | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i> | 6     | 25     |
| 7143          | <i>Inspect and report on safety and operations at an extractive site</i>                                | 5     | 10     |
| 7146          | Demonstrate basic knowledge and ability required to work in an underground operation                    | 2     | 6      |

| UNIT STANDARD          | TITLE   | LEVEL | CREDIT |
|------------------------|---|-------|--------|
| 8899                   | <i>Operate and maintain stockpiles and tipheads at extractive sites</i>   | 4     | 8      |
| 8902                   | <i>Prepare a safety inspection plan for extractive operations</i>   | 5     | 4      |
| 8905                   | <i>Demonstrate knowledge of construction and maintenance of working surfaces at an extractive site</i>                | 3     | 5      |
| 15662                  | <i>Evaluate ground conditions and support methods for maintaining stability in underground operations</i>             | 6     | 15     |
| 15665                  | Demonstrate knowledge of geology and geotechnical features and failures for surface extraction                        | 4     | 5      |
| 15666                  | Demonstrate knowledge of geology for underground extraction   | 4     | 10     |
| 16686                  | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279                  | Demonstrate knowledge of the coordinated incident management system (CIMS)  | 2     | 2      |
| 17691                  | Use mathematics to solve problems in an extractive industries workplace   | 4     | 15     |
| 17693                  | <i>Explain and determine water flow, and describe the selection of pumps and structures for an extractive site</i>    | 6     | 20     |
| 17694                  | Demonstrate knowledge of explosives and their properties  | 3     | 10     |
| 17744                  | <i>Read and interpret extractive site plans</i>   | 4     | 5      |
| 21152                  | Demonstrate and apply knowledge of storing explosives for use   | 4     | 10     |
| 21155                  | <i>Demonstrate knowledge of the use of water at an extractive site</i>  | 4     | 7      |
| 21629                  | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                                     | 5     | 10     |
| 25878                  | Demonstrate knowledge of crushing and screening plant for extractives industries                                      | 3     | 3      |
| 26855                  | Analyse Human Factors present in workplace practices at an extractive site  | 4     | 10     |
| 15658/15667 combined   | <i>Demonstrate knowledge of extraction methods, and selection of plant and equipment for surface extraction</i>       | 5     | 15     |
| 15660/15670 combined   | <i>Demonstrate knowledge of mining methods, and analyse and select plant for metalliferous underground extraction</i> | 6     | 20     |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |

Amendment to current requirements:

| UNIT STANDARD                            | TITLE  | LEVEL      | CREDIT       |
|--|--|------------|--------------|
| Non-coal version<br>7145<br>Or<br>7145   | <i>Design and maintain effective ventilation systems for a non-coal underground operation</i><br>Or<br><i>Design and maintain effective ventilation systems for an underground coal mine</i> | 5<br><br>5 | 20<br><br>20 |
| Non-coal version<br>21281<br>Or<br>21281 | <i>Interpret and test for gases in a non-coal underground operation</i><br>Or<br><i>Interpret and test for gases in an underground coal mine</i>   | 4<br><br>4 | 15<br><br>15 |

Additional to current requirements:

| UNIT STANDARD                    | TITLE   | LEVEL | CREDIT |
|----------------------------------|---|-------|--------|
| 3271                             | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| <i>New replacement for 15672</i> | <i>Demonstrate knowledge of the Underground Mines Emergency Protocol</i>  | 2     | 2      |
| 17743                            | Demonstrate knowledge of survey principles and apply to an extraction site  | 4     | 4      |
| 21661                            | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i>     | 4     | 7      |
| 21821                            | Maintain and install services for an underground operation  | 3     | 15     |
| 22057                            | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>                 | 4     | 7      |
| 23648                            | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                             | 3     | 5      |
| 25876                            | Describe the effects of an extractive site on the environment and related requirements and responsibilities         | 3     | 4      |
| 28982                            | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 29553                            | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554                            | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership                       | Choices as per separate list  | 5     | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site                                    | 5     | 15     |
| 8909          | Demonstrate knowledge of the maintenance of working surfaces at a surface extraction site                          | 2     | 2      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site   | 2     | 2      |
| 15663         | Demonstrate knowledge of the design and maintenance of stockpiles and sloping surfaces at surface extraction sites | 6     | 20     |
| 15664         | Demonstrate introductory knowledge of geology at surface extraction sites  | 3     | 5      |
| 15672         | <i>Demonstrate knowledge of the Mines Rescue Service</i>   | 2     | 2      |
| 21151         | Demonstrate knowledge of planning rehabilitation operations for an extractive site                                 | 6     | 15     |
| 21153         | Demonstrate and apply knowledge of dewatering, pump maintenance, and settling ponds at an extractive site          | 3     | 5      |
| 21156         | Demonstrate knowledge of planning and managing extraction to minimise environmental impacts                        | 5     | 15     |
| 21278         | Describe, install, and reassess support systems for an underground operation                                       | 4     | 15     |
| 21280         | Demonstrate knowledge and evaluate the design of an effective ventilation system in an underground mine            | 6     | 20     |
| 22056         | Demonstrate knowledge of theoretical mechanics for extractive industries   | 5     | 20     |
| 22445         | Describe the roles and functions of a CIMS Incident Management Team  | 4     | 4      |

## For a certificate of competence as an A-Grade Tunnel Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD               | TITLE   | LEVEL | CREDIT |
|-----------------------------|---|-------|--------|
| 3271                        | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| <i>7142</i>                 | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>               | 6     | 25     |
| <i>7143</i>                 | <i>Inspect and report on safety and operations at an extractive site</i>  | 5     | 10     |
| 7146                        | Demonstrate basic knowledge and ability required to work in an underground operation                                  | 2     | 6      |
| 8899                        | Operate and maintain stockpiles and tipheads at extractive sites  | 4     | 8      |
| 15666                       | Demonstrate knowledge of geology for underground extraction   | 4     | 10     |
| <i>15669</i>                | <i>Demonstrate knowledge of tunnelling methods, and selection of plant and equipment for tunnelling</i>               | 5     | 15     |
| 16686                       | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279                       | Demonstrate knowledge of the coordinated incident management system (CIMS)  | 2     | 2      |
| 17691                       | Use mathematics to solve problems in an extractive industries workplace   | 4     | 15     |
| 17694                       | Demonstrate knowledge of explosives and their properties  | 3     | 10     |
| 21152                       | Demonstrate and apply knowledge of storing explosives for use   | 4     | 10     |
| 21278                       | Describe, install, and reassess support systems for an underground operation  | 4     | 15     |
| <i>21661</i>                | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i>       | 4     | 7      |
| 21821                       | Maintain and install services for an underground operation  | 3     | 15     |
| <i>22057</i>                | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>                   | 4     | 7      |
| 26855                       | Analyse Human Factors present in workplace practices at an extractive site  | 4     | 10     |
| <i>15660/15670 combined</i> | <i>Demonstrate knowledge of mining methods, and analyse and select plant for metalliferous underground extraction</i> | 6     | 20     |
| 28983 (was 26856) (G2)      | Carry out the risk management process at an extractive site   | 5     | 10     |

Amendment to current requirements:

| UNIT STANDARD                                       | TITLE  | LEVEL  | CREDIT   |
|---|--|--------|----------|
| <i>Non-coal version 7145</i><br>Or<br><i>7145</i>   | <i>Design and maintain effective ventilation systems for a non-coal underground operation</i><br>Or<br><i>Design and maintain effective ventilation systems for an underground coal mine</i> | 5<br>5 | 20<br>20 |
| <i>Non-coal version 21281</i><br>Or<br><i>21281</i> | <i>Interpret and test for gases in a non-coal underground operation</i><br>Or<br><i>Interpret and test for gases in an underground coal mine</i>   | 4<br>4 | 15<br>15 |

Additional to current requirements:

| UNIT STANDARD                    | TITLE   | LEVEL | CREDIT |
|----------------------------------|---|-------|--------|
| 8902                             | <i>Prepare a safety inspection plan for extractive operations</i>   | 5     | 4      |
| <i>New replacement for 15672</i> | <i>Demonstrate knowledge of the Underground Mines Emergency Protocol</i>  | 2     | 2      |
| 17743                            | Demonstrate knowledge of survey principles and apply to an extraction site  | 4     | 4      |
| 17744                            | Read and interpret extractive site plans  | 4     | 5      |
| 21629                            | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                                   | 5     | 10     |
| 23648                            | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                             | 3     | 5      |
| 25876                            | Describe the effects of an extractive site on the environment and related requirements and responsibilities         | 3     | 4      |
| 28982                            | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 29553                            | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554                            | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership                       | Choices as per separate list  | 4+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment   | 3     | 3      |
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site                           | 5     | 15     |
| 8922          | Conduct safety checks prior to equipment use at an extractive site  | 2     | 2      |
| <i>15662</i>  | <i>Evaluate ground conditions and support methods for maintaining stability in underground operations</i> | 6     | 15     |
| <i>15672</i>  | <i>Demonstrate knowledge of the Mines Rescue Service</i>  | 2     | 2      |
| <i>17705</i>  | <i>Describe, develop, and maintain basic ventilation systems for an underground coal mine</i>             | 4     | 15     |
| 21151         | Demonstrate knowledge of planning rehabilitation operations for an extractive site                        | 6     | 15     |
| 22445         | Describe the roles and functions of a CIMS Incident Management team                                       | 4     | 4      |

## For a certificate of competence as a B-Grade Tunnel Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 3271          | Suppress fire with hand extinguishers and fixed hose reels                           | 2     | 1      |
| <i>7143</i>   | <i>Inspect and report on safety and operations at an extractive site</i>             | 5     | 10     |
| 7146          | Demonstrate basic knowledge and ability required to work in an underground operation | 2     | 6      |

| UNIT STANDARD             | TITLE   | LEVEL | CREDIT |
|---------------------------|---|-------|--------|
| 8899                      | <i>Operate and maintain stockpiles and tipheads at extractive sites</i>   | 4     | 8      |
| 16686                     | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279                     | Demonstrate knowledge of the coordinated incident management system (CIMS)                                      | 2     | 2      |
| 17694                     | Demonstrate knowledge of explosives and their properties  | 3     | 10     |
| 21152                     | Demonstrate and apply knowledge of storing explosives for use   | 4     | 10     |
| 21278                     | Describe, install, and reassess support systems for an underground operation                                    | 4     | 15     |
| 21661                     | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i> | 4     | 7      |
| 21821                     | Maintain and install services for an underground operation  | 3     | 15     |
| 22057                     | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>             | 4     | 7      |
| 26855                     | Analyse Human Factors present in workplace practices at an extractive site                                      | 4     | 10     |
| 28742                     | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i>    | 4     | 8      |
| Or<br>7142                | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>         | 6     | 25     |
| 28983 (was<br>26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |

Amendment to current requirements:

| UNIT STANDARD                         | TITLE   | LEVEL | CREDIT |
|---------------------------------------|---|-------|--------|
| <i>Non-coal version</i><br>17705      | <i>Describe, develop, and maintain basic ventilation systems for a non-coal underground operation</i> | 4     | 15     |
| Or<br>17705                           | <i>Describe, develop, and maintain basic ventilation systems for an underground coal mine</i>         | 4     | 15     |
| Or<br><i>Non-coal version</i><br>7145 | <i>Design and maintain effective ventilation systems for a non-coal underground operation</i>         | 5     | 20     |
| Or<br>7145                            | <i>Design and maintain effective ventilation systems for an underground coal mine</i>                 | 5     | 20     |
| <i>Non-coal version</i><br>21281      | <i>Interpret and test for gases in a non-coal underground operation</i>                               | 4     | 15     |
| Or<br>21281                           | <i>Interpret and test for gases in an underground coal mine</i>                                       | 4     | 15     |

Additional to current requirements:

| UNIT STANDARD                    | TITLE   | LEVEL | CREDIT |
|----------------------------------|---|-------|--------|
| 8902                             | <i>Prepare a safety inspection plan for extractive operations</i>                                       | 5     | 4      |
| 15669                            | <i>Demonstrate knowledge of tunnelling methods, and selection of plant and equipment for tunnelling</i> | 5     | 15     |
| <i>New replacement for 15672</i> | <i>Demonstrate knowledge of the Underground Mines Emergency Protocol</i>                                | 2     | 2      |
| 17691                            | Use mathematics to solve problems in an extractive industries workplace                                 | 4     | 15     |
| 17743                            | Demonstrate knowledge of survey principles and apply to an extraction site                              | 4     | 4      |

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 17744         | <i>Read and interpret extractive site plans</i>   | 4     | 5      |
| 21629         | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                                   | 5     | 10     |
| 23648         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                             | 3     | 5      |
| 25876         | Describe the effects of an extractive site on the environment and related requirements and responsibilities         | 3     | 4      |
| 28798         | Demonstrate introductory knowledge of ground support and geology at an underground operation                        | 3     | 5      |
| Or<br>15666   | Or<br>Demonstrate knowledge of geology for underground extraction   | 4     | 10     |
| 28982         | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 29553         | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554         | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership    | Choices as per separate list  | 3+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment                             | 3     | 3      |
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site | 5     | 15     |
| 8922          | Conduct safety checks prior to equipment use at an extractive site              | 2     | 2      |
| 15672         | Demonstrate knowledge of the Mines Rescue Service                               | 2     | 2      |
| 22445         | Describe the roles and functions of a CIMS Incident Management System           | 4     | 4      |

## For a certificate of competence as an A-Grade Opencast Coal Mine Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 7142          | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i> | 6     | 25     |
| 7143          | <i>Inspect and report on safety and operations at an extractive site</i>                                | 5     | 10     |
| 8899          | <i>Operate and maintain stockpiles and tipheads at extractive sites</i>                                 | 4     | 8      |
| 8902          | <i>Prepare a safety inspection plan for extractive operations</i>                                       | 5     | 4      |
| 8905          | <i>Demonstrate knowledge of construction and maintenance of working surfaces at an extractive site</i>  | 3     | 5      |
| 16686         | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279         | Demonstrate knowledge of the coordinated incident management system (CIMS)                              | 2     | 2      |

| UNIT STANDARD          | TITLE   | LEVEL | CREDIT |
|------------------------|---|-------|--------|
| 17694                  | Demonstrate knowledge of explosives and their properties  | 3     | 10     |
| 21152                  | Demonstrate and apply knowledge of storing explosives for use   | 4     | 10     |
| 21155                  | Demonstrate knowledge of the use of water at an extractive site   | 4     | 7      |
| 25878                  | Demonstrate knowledge of crushing and screening plant for extractives industries                                | 3     | 3      |
| 26855                  | Analyse Human Factors present in workplace practices at an extractive site                                      | 4     | 10     |
| 15658/15667 combined   | <i>Demonstrate knowledge of extraction methods, and selection of plant and equipment for surface extraction</i> | 5     | 15     |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 3271          | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| 15665         | <i>Demonstrate knowledge of geology and geotechnical features and failures for surface extraction</i>               | 4     | 5      |
| 17743         | Demonstrate knowledge of survey principles and apply to an extraction site  | 4     | 4      |
| 17744         | <i>Read and interpret extractive site plans</i>   | 4     | 5      |
| 21629         | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                                   | 5     | 10     |
| 21661         | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i>     | 4     | 7      |
| 22057         | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>                 | 4     | 7      |
| 23648         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                             | 3     | 5      |
| 25876         | Describe the effects of an extractive site on the environment and related requirements and responsibilities         | 3     | 4      |
| 28982         | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 29553         | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554         | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership    | Choices as per separate list  | 4+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site                                    | 5     | 15     |
| 8909          | Demonstrate knowledge of the maintenance of working surfaces at a surface extraction site                          | 2     | 2      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site   | 2     | 2      |
| 15663         | Demonstrate knowledge of the design and maintenance of stockpiles and sloping surfaces at surface extraction sites | 6     | 20     |

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 15664         | Demonstrate introductory knowledge of geology at surface extraction sites                                 | 3     | 5      |
| 21151         | Demonstrate knowledge of planning rehabilitation operations for an extractive site                        | 6     | 15     |
| 21153         | Demonstrate and apply knowledge of dewatering, pump maintenance, and settling ponds at an extractive site | 3     | 5      |
| 21156         | Demonstrate knowledge of planning and managing extraction to minimise environmental impacts               | 5     | 15     |
| 22445         | Describe the roles and functions of a CIMS Incident Management System                                     | 4     | 4      |

## For a certificate of competence as a B-Grade Opencast Coal Mine Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD             | TITLE  | LEVEL | CREDIT |
|---------------------------|--|-------|--------|
| 8905                      | <i>Demonstrate knowledge of construction and maintenance of working surfaces at an extractive site</i>       | 3     | 5      |
| 16686                     | Conduct an incident investigation at an extractive site  | 5     | 8      |
| 17279                     | Demonstrate knowledge of the coordinated incident management system (CIMS)                                   | 2     | 2      |
| 17694                     | Demonstrate knowledge of explosives and their properties   | 3     | 10     |
| 21152                     | Demonstrate and apply knowledge of storing explosives for use  | 4     | 10     |
| 21155                     | Demonstrate knowledge of the use of water at an extractive site  | 4     | 7      |
| 26855                     | Analyse Human Factors present in workplace practices at an extractive site                                   | 4     | 10     |
| 28742                     | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i> | 4     | 8      |
| Or<br>7142                | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>      | 6     | 25     |
| 28983 (was<br>26856) (G2) | Carry out the risk management process at an extractive site  | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 3271          | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| 17744         | <i>Read and interpret extractive site plans</i>   | 4     | 5      |
| 21661         | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i> | 4     | 7      |
| 22057         | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>             | 4     | 7      |
| 23648         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                         | 3     | 5      |
| 25878         | Demonstrate knowledge of crushing and screening plant for extractives industries                                | 3     | 3      |

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 28793         | Conduct safety inspections for extractive operations  | 4     | 4      |
| 29553         | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554         | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership    | Choices as per separate list  | 3+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 8902          | <i>Prepare a safety inspection plan for extractive operations</i>   | 5     | 4      |
| 8909          | Demonstrate knowledge of the maintenance of working surfaces at a surface extraction site                 | 2     | 2      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site  | 2     | 2      |
| 21153         | Demonstrate and apply knowledge of dewatering, pump maintenance, and settling ponds at an extractive site | 3     | 5      |
| 21156         | Demonstrate knowledge of planning and managing extraction to minimise environmental impacts               | 5     | 15     |
| 22445         | Describe the roles and functions of a CIMS Incident Management System                                     | 4     | 4      |

## For a certificate of competence as an A-Grade Quarry Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 7142          | Demonstrate knowledge of the application of regulatory requirements to manage an extractive site       | 6     | 25     |
| 7143          | <i>Inspect and report on safety and operations at an extractive site</i>                               | 5     | 10     |
| 8899          | <i>Operate and maintain stockpiles and tipheads at extractive sites</i>                                | 4     | 8      |
| 8902          | <i>Prepare a safety inspection plan for extractive operations</i>                                      | 5     | 4      |
| 8905          | <i>Demonstrate knowledge of construction and maintenance of working surfaces at an extractive site</i> | 3     | 5      |
| 16686         | Conduct an incident investigation at an extractive site  | 5     | 8      |
| 17279         | Demonstrate knowledge of the coordinated incident management system (CIMS)                             | 2     | 2      |
| 17694         | Demonstrate knowledge of explosives and their properties   | 3     | 10     |
| 21152         | Demonstrate and apply knowledge of storing explosives for use  | 4     | 10     |
| 21155         | <i>Demonstrate knowledge of the use of water at an extractive site</i>                                 | 4     | 7      |
| 25878         | Demonstrate knowledge of crushing and screening plant for extractives industries                       | 3     | 3      |
| 26855         | Analyse Human Factors present in workplace practices at an extractive site                             | 4     | 10     |

| UNIT STANDARD          | TITLE   | LEVEL | CREDIT |
|------------------------|---|-------|--------|
| 15658/15667 combined   | <i>Demonstrate knowledge of extraction methods, and selection of plant and equipment for surface extraction</i> | 5     | 15     |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD            | TITLE   | LEVEL | CREDIT |
|--------------------------|---|-------|--------|
| 3271                     | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| 15665                    | <i>Demonstrate knowledge of geology and geotechnical features and failures for surface extraction</i>               | 4     | 5      |
| 21629                    | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                                   | 5     | 10     |
| 21661                    | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i>     | 4     | 7      |
| 22057                    | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>                 | 4     | 7      |
| 23648                    | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                             | 3     | 5      |
| 25876                    | Describe the effects of an extractive site on the environment and related requirements and responsibilities         | 3     | 4      |
| 28982                    | Develop standard operating procedures for an extractive site  | 5     | 5      |
| <i>New unit standard</i> | <i>Read and interpret a quarry site plan</i>  | 3     | 3      |
| 29553                    | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554                    | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership               | Choices as per separate list  | 4+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 7144          | Review plans and recommend changes for ongoing operations at an extractive site   | 5     | 15     |
| 8909          | Demonstrate knowledge of the maintenance of working surfaces at a surface extraction site                                 | 2     | 2      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site  | 2     | 2      |
| 15663         | <i>Demonstrate knowledge of the design and maintenance of stockpiles and sloping surfaces at surface extraction sites</i> | 6     | 20     |
| 15664         | Demonstrate introductory knowledge of geology at surface extraction sites   | 3     | 5      |
| 21151         | Demonstrate knowledge of planning rehabilitation operations for an extractive site  | 6     | 15     |
| 21153         | Demonstrate and apply knowledge of dewatering, pump maintenance, and settling ponds at an extractive site                 | 3     | 5      |
| 21156         | Demonstrate knowledge of planning and managing extraction to minimise environmental impacts                               | 5     | 15     |
| 22445         | Describe the roles and functions of a CIMS Incident Management System   | 4     | 4      |

## For a certificate of competence as a B-Grade Quarry Manager

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD          | TITLE   | LEVEL | CREDIT |
|------------------------|---|-------|--------|
| 7142                   | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i> | 6     | 25     |
| 8902                   | <i>Prepare a safety inspection plan for extractive operations</i>                                       | 5     | 4      |
| 8905                   | <i>Demonstrate knowledge of construction and maintenance of working surfaces at an extractive site</i>  | 3     | 5      |
| 16686                  | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 21155                  | <i>Demonstrate knowledge of the use of water at an extractive site</i>                                  | 4     | 7      |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD        | TITLE   | LEVEL | CREDIT |
|----------------------|---|-------|--------|
| 3271                 | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| 7143                 | <i>Inspect and report on safety and operations at an extractive site</i>  | 5     | 10     |
| 8899                 | <i>Operate and maintain stockpiles and tipheads at extractive sites</i>   | 4     | 8      |
| 15665                | <i>Demonstrate knowledge of geology and geotechnical features and failures for surface extraction</i>           | 4     | 5      |
| 17279                | <i>Demonstrate knowledge of the coordinated incident management system (CIMS)</i>                               | 2     | 2      |
| 17694                | <i>Demonstrate knowledge of explosives and their properties</i>   | 3     | 10     |
| 21152                | <i>Demonstrate and apply knowledge of storing explosives for use</i>  | 4     | 10     |
| 21629                | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                               | 5     | 10     |
| 21661                | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i> | 4     | 7      |
| 22057                | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>             | 4     | 7      |
| 23648                | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                         | 3     | 5      |
| 25876                | Describe the effects of an extractive site on the environment and related requirements and responsibilities     | 3     | 4      |
| 25878                | Demonstrate knowledge of crushing and screening plant for extractives industries                                | 3     | 3      |
| 26855                | Analyse Human Factors present in workplace practices at an extractive site                                      | 4     | 10     |
| 28982                | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 15658/15667 combined | <i>Demonstrate knowledge of extraction methods, and selection of plant and equipment for surface extraction</i> | 5     | 15     |
| New unit standard    | <i>Read and interpret a quarry site plan</i>  | 3     | 3      |

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 29553         | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554         | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership    | Choices as per separate list  | 3+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 8909          | Demonstrate knowledge of the maintenance of working surfaces at a surface extraction site                    | 2     | 2      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site   | 2     | 2      |
| 21153         | Demonstrate and apply knowledge of dewatering, pump maintenance, and settling ponds at an extractive site    | 3     | 5      |
| 21156         | Demonstrate knowledge of planning and managing extraction to minimise environmental impacts                  | 5     | 15     |
| <i>28742</i>  | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i> | 4     | 8      |

## For a certificate of competence as a manager of a specified quarry

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

| UNIT STANDARD            | TITLE   | LEVEL | CREDIT |
|--------------------------|---|-------|--------|
| 3271                     | Suppress fire with hand extinguishers and fixed hose reels  | 2     | 1      |
| <i>8902</i>              | <i>Prepare a safety inspection plan for extractive operations</i>   | 5     | 4      |
| <i>8905</i>              | <i>Demonstrate knowledge of construction and maintenance of working surfaces at an extractive site</i>          | 3     | 5      |
| 16686                    | Conduct an incident investigation at an extractive site   | 5     | 8      |
| 17279                    | Demonstrate knowledge of the coordinated incident management system (CIMS)                                      | 2     | 2      |
| <i>New unit standard</i> | <i>Read and interpret a quarry site plan</i>  | 3     | 3      |
| <i>21155</i>             | <i>Demonstrate knowledge of the use of water at an extractive site</i>  | 4     | 7      |
| <i>21661</i>             | <i>Demonstrate knowledge of the use of electrical reticulation plant and equipment in extractive operations</i> | 4     | 7      |
| <i>22057</i>             | <i>Demonstrate knowledge of pneumatic and hydraulic power systems used in extractive operations</i>             | 4     | 7      |
| <i>23648</i>             | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                         | 3     | 5      |
| 25878                    | Demonstrate knowledge of crushing and screening plant for extractives industries                                | 3     | 3      |

| UNIT STANDARD             | TITLE   | LEVEL | CREDIT |
|---------------------------|---|-------|--------|
| 28742                     | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i>        | 4     | 8      |
| Or<br>7142                | <i>Or<br/>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>      | 6     | 25     |
| 28793                     | Conduct safety inspections for extractive operations  | 4     | 4      |
| 28982                     | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 28983 (was<br>26856) (G2) | Carry out the risk management process at an extractive site   | 5     | 10     |
| 29553                     | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                  | 4     | 2      |
| 29554                     | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| Leadership                | Choices as per separate list  | 3+    | 8+     |

## For a certificate of competence as a Mechanical Superintendent

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD             | TITLE  | LEVEL | CREDIT |
|---------------------------|--|-------|--------|
| 3271                      | Suppress fire with hand extinguishers and fixed hose reels                 | 2     | 1      |
| 16686                     | Conduct an incident investigation at an extractive site                    | 5     | 8      |
| 17279                     | Demonstrate knowledge of the coordinated incident management system (CIMS) | 2     | 2      |
| 28983 (was<br>26856) (G2) | Carry out the risk management process at an extractive site                | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 17744         | <i>Read and interpret extractive site plans</i>  | 4     | 5      |
| 23648         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                        | 3     | 5      |
| 23649         | Develop, implement, and review maintenance plans for an extractive site  | 6     | 20     |
| 26855         | Analyse Human Factors present in workplace practices at an extractive site                                     | 4     | 10     |
| 28742         | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i>   | 4     | 8      |
| Or<br>7142    | <i>Or<br/>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i> |       |        |
| 28982         | Develop standard operating procedures for an extractive site   | 5     | 5      |
| Leadership    | Choices as per separate list   | 4+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment  | 3     | 3      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site                                 | 2     | 2      |
| 22445         | Describe the roles and functions of a CIMS Incident Management Team                                | 4     | 4      |
| 22903         | Demonstrate knowledge of modern manufacturing concepts and their significance in plant maintenance | 4     | 3      |
| 22904         | Demonstrate knowledge of modern engineering plant maintenance practice                             | 4     | 5      |
| 22905         | Demonstrate planned maintenance work on mechanical equipment                                       | 4     | 5      |

## For a certificate of competence as an Electrical Superintendent

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD          | TITLE  | LEVEL | CREDIT |
|------------------------|--|-------|--------|
| 3271                   | Suppress fire with hand extinguishers and fixed hose reels                 | 2     | 1      |
| 16686                  | Conduct an incident investigation at an extractive site                    | 5     | 8      |
| 17279                  | Demonstrate knowledge of the coordinated incident management system (CIMS) | 2     | 2      |
| 28983 (was 26856) (G2) | Carry out the risk management process at an extractive site                | 5     | 10     |

Additional to current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 2030          | Schedule and manage preventative maintenance for industrial electrical equipment  | 5     | 6      |
| 17744         | <i>Read and interpret extractive site plans</i>   | 4     | 5      |
| 18028         | Demonstrate knowledge of earthing in high voltage (HV) electricity network installations and works                      | 3     | 2      |
| 19001         | Demonstrate advanced knowledge of electrical circuit protection   | 5     | 3      |
| 23648         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                                 | 3     | 5      |
| 26855         | Analyse Human Factors present in workplace practices at an extractive site  | 4     | 10     |
| 28742         | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i>            | 4     | 8      |
| Or<br>7142    | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>                 | 6     | 25     |
| 28982         | Develop standard operating procedures for an extractive site  | 5     | 5      |
| 29468         | Demonstrate and apply knowledge of safe plant isolation, re-commissioning, and associated electrical testing procedures | 3     | 5      |
| 29553         | Demonstrate knowledge of CIMS related roles and Action Plan process in an incident                                      | 4     | 2      |

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 29554         | Demonstrate situational awareness, action planning, and communication skills in an incident within a CIMS framework | 4     | 2      |
| 30068         | Enter classified explosive atmosphere areas to undertake work   | 3     | 2      |
| Leadership    | Choices as per separate list  | 4+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment  | 3     | 3      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site                                 | 2     | 2      |
| 22445         | Describe the roles and functions of a CIMS Incident Management Team                                | 4     | 4      |
| 22903         | Demonstrate knowledge of modern manufacturing concepts and their significance in plant maintenance | 4     | 3      |
| 22904         | Demonstrate knowledge of modern engineering plant maintenance practice                             | 4     | 5      |
| 22905         | Demonstrate planned maintenance work on mechanical equipment                                       | 4     | 5      |

## For a certificate of competence as a Ventilation Officer

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 7145          | <i>Design and maintain effective ventilation systems for an underground operation</i> | 5     | 20     |
| 7146          | Demonstrate basic knowledge and ability required to work in an underground operation  | 2     | 6      |
| 17691         | Use mathematics to solve problems in an extractive industries workplace               | 4     | 15     |
| 17744         | <i>Read and interpret extractive site plans</i>                                       | 4     | 5      |
| 21821         | Maintain and install services for an underground operation                            | 3     | 15     |

Additional to current requirements:

| UNIT STANDARD | TITLE  | LEVEL | CREDIT |
|---------------|--|-------|--------|
| 3271          | Suppress fire with hand extinguishers and fixed hose reels   | 2     | 1      |
| 16686         | Conduct an incident investigation at an extractive site  | 5     | 8      |
| 21281         | <i>Interpret and test for gases in an underground coal mine</i>  | 4     | 15     |
| 23648         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                      | 3     | 5      |
| 28742         | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i> | 4     | 8      |
| Or<br>7142    | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>      | 6     | 25     |
| Leadership    | Choices as per separate list   | 3+    | 8+     |

Removed from current requirements:

| UNIT STANDARD | TITLE   | LEVEL | CREDIT |
|---------------|---|-------|--------|
| 2401          | Safely shut down and isolate machines and equipment   | 3     | 3      |
| 8922          | Conduct safety checks prior to equipment use at an extractive site                                      | 2     | 2      |
| 21280         | Demonstrate knowledge and evaluate the design of an effective ventilation system in an underground mine | 6     | 20     |
| 23550         | Manage the mine ventilation system at an extractive site  | 7     | 30     |

## For a certificate of competence as a Mine Surveyor

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| UNIT STANDARD | TITLE   | LEVEL    | CREDIT   |
|---------------|---|----------|----------|
| 7146          | Demonstrate basic knowledge and ability required to work in an underground operation                  | 2        | 6        |
| <i>15665</i>  | <i>Demonstrate knowledge of geology and geotechnical features and failures for surface extraction</i> | <i>4</i> | <i>5</i> |
| 15666         | Demonstrate knowledge of geology for underground extraction   | 4        | 10       |
| 17741         | Demonstrate specialist underground survey techniques  | 6        | 15       |

Amendment to current requirements:

| UNIT STANDARD               | TITLE                                   | LEVEL | CREDIT |
|-----------------------------|---|-------|--------|
| 29087 (was 17742 and 17745) | Survey and produce statutory mine plans | 6     | 20     |

Additional to current requirements:

| UNIT STANDARD | TITLE  | LEVEL    | CREDIT    |
|---------------|--|----------|-----------|
| 3271          | Suppress fire with hand extinguishers and fixed hose reels   | 2        | 1         |
| 21629         | <i>Evaluate plans to manage old workings and inundations in underground sites</i>                            | <i>5</i> | <i>10</i> |
| 23648         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i>                      | <i>3</i> | <i>5</i>  |
| 28742         | <i>Explain the health and safety legislation, and supporting documents, applicable to an extractive site</i> | <i>4</i> | <i>8</i>  |
| Or<br>7142    | <i>Demonstrate knowledge of the application of regulatory requirements to manage an extractive site</i>      | <i>6</i> | <i>25</i> |
| Leadership    | Choices as per separate list   | 4+       | 8+        |

## For a certificate of competence as a Winding Engine Driver

Unit standards shown in italics are currently under review by MITO. Please note that titles, levels, and credits shown in italics are those proposed as part of MITO's review. They may differ from those currently listed on the NZQA website.

Retained from current requirements:

| <b>UNIT STANDARD</b> | <b>TITLE</b>  | <b>LEVEL</b> | <b>CREDIT</b> |
|----------------------|---|--------------|---------------|
| 7164                 | Describe and operate a winding engine in an underground extractive site | 4            | 6             |

Additional to current requirements:

| <b>UNIT STANDARD</b> | <b>TITLE</b>  | <b>LEVEL</b> | <b>CREDIT</b> |
|----------------------|---|--------------|---------------|
| 3271                 | Suppress fire with hand extinguishers and fixed hose reels                              | 2            | 1             |
| <i>23648</i>         | <i>Demonstrate knowledge of and follow safe working practices at an extractive site</i> | <i>3</i>     | <i>5</i>      |







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