March 2023 - October 2023

# Examiners' report

# Mining Engineering Manager of underground coal mines certificate of competence

Examiners' report 2023

## Written examination

### MB1 - Legislation

**Summary of results and general comments**

Exam date: 2 Mar 2023

Number of candidates: 6

Number who passed: 6

Highest mark: 86.5

Average mark: 72.5

Lowest mark: 60

**Question 1 (total of 20 marks) Notifiable Incidents**

Highest mark: 20

Average mark: 16.25

Lowest mark: 13.5

Examiners' comments:

This question was answered reasonably well.

Notifiables must be known.

**Question 2 (total of 20 marks) SMS**

Highest mark: 19

Average mark: 16.83

Lowest mark: 13

Examiners' comments:

Answered well.

### Question 3 (total of 20 marks) Notices

Highest mark: 16

Average mark: 11.75

Lowest mark: 9.5

Examiners' comments:

Candidates need to know what the requirements around notices are.

### Question 4 (total of 20 marks) Statutory Obligation

Highest mark: 18

Average mark: 13.75

Lowest mark: 7

Examiners' comments:

This is the foundation of the role & should be known.

### Question 5 (total of 20 marks) Emergency MP Consultation

Highest mark: 18.5

Average mark: 13.91

Lowest mark: 9

Examiners' comments:

Answered fairly well.

#The questions were set as a practical exam of the working knowledge required to fore fill the role.

#Candidates need to do their work.

## MB2 – Mine ventilation

### Summary of results and general comments

Exam date: 2 Mar 2023

Number of candidates: 8

Number who passed: 0

Highest mark: 118

Average mark: 96.72

Lowest mark: 86.5

### Question 1 (total of 100 marks) Issues

Highest mark: 67

Average mark: 54.75

Lowest mark: 35.5

### Question 2 (total of 100 marks) Identify Locations

Highest mark: 63

Average mark: 54.06

Lowest mark: 48

Examiners' comments:

Overall the ventilation paper was not handled well by candidates. It is important that the question is read and answered concisely. Refrain from using your company, state specific or site jargon as examiners should not have to interpret what you have written. It was disappointing that not one candidate identified the TG corner of the LW as a relevant issue. With this amount of gas in a coal mine is always a high risk point. Candidates should never be requesting an exemption when it is not asked for as they should be able to use sound mining principles to deal with the issue. Only one candidate stated what their aim was with gas drainage.

Very few candidates attempted to determine the actual gas make and what ventilation would be required. A general lack of understanding was shown with the effects of gas drainage and then further what gas would potentially be released when cutting coal. The production rates were provided so that you could complete the calculations. It is concerning when candidates for the Mining Engineering Manager qualification are not able to complete these calculations in the exam by making sound assumptions on drainage and residual gas contents. Further to this point, just because a candidate declares an assumption doesn't make it correct. The seam specifics provided required candidates to realise that gas drainage was required both above and below the tuff as by its very nature it is very likely to be impermeable.

Whilst it is appreciated that time is tight for making out the mine plan, this does not excuse poor use of symbols on the plan and missing simple matters like tube bundle system monitoring points. Some candidates put additional gas sensors across the LW face but did not make any comment in question 1 as to what the issue was nor justify why they did it.

The mine had both gas and a low propensity to spon com. A bleeder road would significantly increase risk notwithstanding the face that the length and resistance of a bleeder would make it almost prohibitive without high ventilation pressures given there was limited to no surface access for ventilation shafts.

# MB3 – Coal mining practices

## Summary of results and general comments

Exam date: 3 Mar 2023

Number of candidates: 8

Number who passed: 8

Highest mark: 79

Average mark: 70.69

Lowest mark: 62.5

## Question 1 (total of 20 marks) Incident Management

Highest mark: 17.5

Average mark: 13.06

Lowest mark: 10

Examiners' comments:

There are still mine's with drift winders & therefore derailments will occur.

Slack rope is a hazard during re-railing.

Track maintenance is very important.

## Question 2 (total of 20 marks) Longwall

Highest mark: 16.5

Average mark: 12.19

Lowest mark: 7.5

Examiners' comments:

Dykes & faults are geological features that retreating longwalls encounter all the time. Candidate must have an understanding of the different methods of dealing with these issues.

Candidates must be able to demonstrate a logical method of assessing different options presented to them.

## Question 3 (total of 20 marks) Spontaneous Combustion

Highest mark: 19

Average mark: 16.56

Lowest mark: 14.5

Examiners' comments:

Spontaneous combustion in a longwall goaf has the potential to close a mine & put persons at risk.

Candidates need to be familiar with a spon com management plan, signs, TARPs, triggers & actions.

Early detection is very important.

### Question 4 (total of 20 marks) Incident Management

Highest mark: 16

Average mark: 15

Lowest mark: 14

Examiners' comments:

People becoming stuck in a man rider is a common event.

Candidates need to consider how they are going to work through this incident in a logical manner for both immediately & long-term actions.

### Question 5 (total of 20 marks) Plunges

Highest mark: 16.5

Average mark: 15.16

Lowest mark: 14

Examiners' comments:

The herringbone system of mining is becoming more common.

Candidates need to understand all different types of mining (longwall, shortwall, place change, pillar extraction & herringbone) & the advantages / disadvantages of each method.

### Question 6 (total of 20 marks) Hazards

Highest mark: 19

Average mark: 14.75

Lowest mark: 13

Examiners' comments:

Candidates need to understand the hazards associated with the potential of "windblast" & the actions to predict, prevent & reduce the effects.

### Question 7 (total of 20 marks) Open Cut Hazards

Highest mark: 18.5

Average mark: 13.78

Lowest mark: 8

Examiners' comments:

Underground mines off open cut highwalls is becoming more common.

Candidates need to understand the complexities of "shared areas" of responsibilities, light vehicle interaction, deliveries, strata support, training & inductions & emergency response.

### Question 8 (total of 20 marks) Open Cut CHPP

Highest mark: 0

Average mark: 0

Lowest mark: 0

Examiners' comments:

Tailings dams present a hazard to persons.

Candidates need to understand these hazards & actions to prevent incident around tailings dams.

## Oral examination

Date: 11 May 2023

Number of candidates: 4

Number deemed competent: 2

Examiners' comments:

The candidates that passed demonstrated that they had a sound knowledge of "general mining", while taking charge of the situation.

The candidates that were deemed NYC were giving "broad" answers, not specific & required a lot of prompting.

Candidates must demonstrate that they are "confident & competent" to hold this certificate.

## Post Oral examination

Date: 25 Oct 2023

Number of candidates: 0

Number deemed competent: 0

## More information

Regional NSW

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## Acknowledgments

Mining Engineering Manager of underground coal mines examination panel



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